

**EXHIBIT 31**  
**[FILED UNDER SEAL]**

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER

Page 1

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
SHERMAN DIVISION

--oOo--

THE STATE OF TEXAS, et al.,  
Plaintiffs,

vs.

Case No.

4:20-cv-00957-SDJ

GOOGLE LLC,

Defendant.

\_\_\_\_\_/

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER

VIDEOTAPED DEPOSITION OF ZUBAIR SHAFIQ, Ph.D.

SAN FRANCISCO, CALIFORNIA

OCTOBER 9, 2024

Reported by:

Anrae Wimberley, CSR No. 7778

Job No. 6920792

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER

<p style="text-align: right;">Page 2</p> <p>1 IN THE UNITED STATES DISTRICT COURT</p> <p>2 FOR THE EASTERN DISTRICT OF TEXAS</p> <p>3 SHERMAN DIVISION</p> <p>4 --oOo--</p> <p>5 THE STATE OF TEXAS, et al.,</p> <p>6 Plaintiffs,</p> <p>7 vs. Case No.</p> <p>8 4:20-cv-00957-SDJ</p> <p>9 GOOGLE LLC,</p> <p>10 Defendant.</p> <p>11 _____/</p> <p>12</p> <p>13 HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER</p> <p>14</p> <p>15 Transcript of video-recorded deposition</p> <p>16 of ZUBAIR SHAFIQ, Ph.D., taken at Norton Rose</p> <p>17 Fulbright US LLP, 555 California Street, Suite 3300,</p> <p>18 San Francisco, California 94104 and via Zoom</p> <p>19 videoconference, beginning at 9:55 a.m. and ending</p> <p>20 at 7:01 p.m. on Wednesday, October 9, 2024, before</p> <p>21 Anrae Wimberley, Certified Shorthand Reporter</p> <p>22 No. 7778.</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 4</p> <p>1 STATE OF TEXAS</p> <p>2 OFFICE OF THE ATTORNEY GENERAL</p> <p>3 BY: BAO CUONG PHAM, ESQ. (VIA ZOOM)</p> <p>4 P.O. Box 12548</p> <p>5 Austin, Texas 78711-2548</p> <p>6 (512) 936-1674</p> <p>7 cuong.pham@oag.texas.gov</p> <p>8</p> <p>9 COUNSEL FOR GOOGLE LLC:</p> <p>10 FRESHFIELDS BRUCKHAUS DERINGER US LLP</p> <p>11 BY: GAYLE R. KLEIN, ESQ.</p> <p>12 MORGAN MARMARO, ESQ.</p> <p>13 JEANETTE BAYOUMI, ESQ. (VIA ZOOM)</p> <p>14 175 Greenwich Street, 51st Floor</p> <p>15 3 World Trade Center</p> <p>16 New York, New York 10007</p> <p>17 (212) 230-4645</p> <p>18 gayle.klein@freshfields.com</p> <p>19 morgan.marmaro@freshfields.com</p> <p>20 jeanette.bayoumi@freshfields.com</p> <p>21</p> <p>22 ALSO PRESENT:</p> <p>23 KEIGO PAINTER, Videographer</p> <p>24 VERITEXT LEGAL SOLUTIONS</p> <p>25 --oOo--</p>
<p style="text-align: right;">Page 3</p> <p>1 APPEARANCES:</p> <p>2 Counsel for Plaintiff State of Texas:</p> <p>3 THE LANIER LAW FIRM, PLLC</p> <p>4 BY: ROBERT ARTHUR, ESQ.</p> <p>5 JONATHAN WILKERSON, ESQ. (VIA ZOOM)</p> <p>6 10940 West Sam Houston Parkway North</p> <p>7 Suite 100</p> <p>8 Houston, Texas 77064</p> <p>9 (713) 659-5200</p> <p>10 arthur@lanierlawfirm.com</p> <p>11 - and -</p> <p>12 NORTON ROSE FULBRIGHT US LLP</p> <p>13 BY: M. MILES ROBINSON, ESQ.</p> <p>14 1301 McKinney, Suite 5100</p> <p>15 Houston, Texas 77010-3095</p> <p>16 (713) 651-5151</p> <p>17 m.miles.robinson@nortonrosefulbright.com</p> <p>18 Counsel for Texas, Idaho, Louisiana</p> <p>19 (The Lanier Law Firm only),</p> <p>20 Mississippi, North Dakota,</p> <p>21 South Carolina, and South Dakota</p> <p>22 - and -</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 5</p> <p>1 INDEX</p> <p>2 EXAMINATION BY: PAGE</p> <p>3 Ms. Klein 10</p> <p>4 Mr. Robinson 278</p> <p>5 Ms. Klein 284</p> <p>6</p> <p>7 --oOo--</p> <p>8</p> <p>9 E X H I B I T S</p> <p>10 EXHIBIT DESCRIPTION PAGE</p> <p>11 Exhibit 1 Fourth Amended Complaint; 15</p> <p>12 300 pages</p> <p>13 Exhibit 2 Curriculum Vitae of Zubair 17</p> <p>14 Shafiq, Ph.D.; 17 pages</p> <p>15 Exhibit 3 Rebuttal Expert Report of 37</p> <p>16 Professor Zubair Shafiq</p> <p>17 dated 9/9/2024; 87 pages</p> <p>18 Exhibit 4 U.C. Davis Step Plus System 45</p> <p>19 - Table 3; 1 page</p> <p>20 Exhibit 5 Paper titled "Tracking, 86</p> <p>21 Profiling, and Ad Targeting</p> <p>22 in the Alexa Echo Smart</p> <p>23 Speaker Ecosystem,"</p> <p>24 authored by Dr. Shafiq; 15</p> <p>25 pages</p> <p>26 Exhibit 6 Paper titled "CanaryTrap: 87</p> <p>27 Detecting Data Misuse by</p> <p>28 Third-Party Apps on Online</p> <p>29 Social Networks," authored</p> <p>30 by Dr. Shafiq; 19 pages</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p>

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<p style="text-align: right;">Page 6</p> <p>1 EXHIBITS (Cont'd)</p> <p>2 EXHIBIT DESCRIPTION PAGE</p> <p>3 Exhibit 7 Call for papers available 93</p> <p>4 on the Internet by the</p> <p>5 Proceedings on Privacy</p> <p>6 Enhancing Technology</p> <p>7 Symposium; 10 pages</p> <p>8 Exhibit 8 Call For Papers, ACM IMC 100</p> <p>9 2023; 7 pages</p> <p>10</p> <p>11 Exhibit 9 Copy of publicly available 104</p> <p>12 version of declaration</p> <p>13 submitted by Professor</p> <p>14 Shafiq in support of</p> <p>15 Plaintiff's Motion for</p> <p>16 Class Certification in the</p> <p>17 Bernadine Griffith versus</p> <p>18 TikTok and Bytedance case;</p> <p>19 83 pages</p> <p>20</p> <p>21 Exhibit 10 Declaration of Glenn 144</p> <p>22 Berntson; 11 pages</p> <p>23 Exhibit 11 Court order in Griffith v. 170</p> <p>24 TikTok, Inc.; 11 pages</p> <p>25</p> <p>15 Exhibit 12 Screenshot from My Ad 209</p> <p>16 Center; 2 pages</p> <p>17 Exhibit 13 Printout titled "Ads that 215</p> <p>18 respect your privacy"; 21</p> <p>19 pages</p> <p>20 --oOo--</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 8</p> <p>1 WEDNESDAY, OCTOBER 9, 2024;</p> <p>2 SAN FRANCISCO, CALIFORNIA;</p> <p>3 9:55 A.M.</p> <p>4 - - -</p> <p>5 THE VIDEOGRAPHER: Good morning. We're going</p> <p>6 on the record at 9:55 a.m. on October 9th, 2024.</p> <p>7 Please note that the microphones are sensitive and</p> <p>8 may pick up whispering and private conversations.</p> <p>9 Please mute your phone at this time. Audio and</p> <p>10 video recording will continue to take place unless</p> <p>11 all parties agree to go off the record.</p> <p>12 This is Media Unit 1 of the video-recorded</p> <p>13 deposition of Dr. Zubair Shafiq taken by counsel for</p> <p>14 defendants in the matter of State of Texas vs.</p> <p>15 Google, LLC, filed in the United States District</p> <p>16 Court, Southern District of New York [sic], Case No.</p> <p>17 1:21-md-03010-PKC [sic] and following cases. The</p> <p>18 location of the deposition is 555 California Street,</p> <p>19 Suite 3300, San Francisco California 94104.</p> <p>20 My name is Keigo Painter, representing</p> <p>21 Veritext. I'm the videographer. The court reporter</p> <p>22 is Anrae Wimberley from the firm Veritext. I'm not</p> <p>23 related to any party in this action, nor financially</p> <p>24 interested in the outcome.</p> <p>25 If there are any objections to proceeding,</p>
<p style="text-align: right;">Page 7</p> <p>1 QUESTIONS WITNESS INSTRUCTED NOT TO ANSWER:</p> <p>2 PAGE LINE</p> <p>3 25 5</p> <p>4 25 15</p> <p>5 26 16</p> <p>6 30 12</p> <p>7 41 20</p> <p>8 43 8</p> <p>9 43 17</p> <p>10 43 25</p> <p>11 50 1</p> <p>12 50 17</p> <p>13 103 15</p> <p>14 106 5</p> <p>15 107 11</p> <p>16 107 21</p> <p>17 108 5</p> <p>18 108 10</p> <p>19 109 22</p> <p>20 110 9</p> <p>21 110 23</p> <p>22 111 17</p> <p>23 113 18</p> <p>24 129 8</p> <p>25 197 25</p>	<p style="text-align: right;">Page 9</p> <p>1 please state them at the time of your appearance.</p> <p>2 Counsel and all present, including remotely, will</p> <p>3 now state their appearances and affiliations for the</p> <p>4 record, beginning with the noticing attorney.</p> <p>5 MS. KLEIN: This is Gayle Klein on behalf of</p> <p>6 the defendant with Freshfields US LLP.</p> <p>7 And I believe the case caption that you</p> <p>8 read was from the Southern District of New York, and</p> <p>9 the case is actually pending in the Eastern District</p> <p>10 of Texas. So we'll get you the right caption on a</p> <p>11 break.</p> <p>12 MR. ROBINSON: Miles Robinson for the plaintiff</p> <p>13 states from Norton Rose Fulbright.</p> <p>14 MR. ARTHUR: Robert Arthur for the plaintiff</p> <p>15 from The Lanier Law Firm.</p> <p>16 MS. MARMARO: Morgan Marmaro for the defendants</p> <p>17 from Freshfields.</p> <p>18 THE VIDEOGRAPHER: Will the court reporter</p> <p>19 please swear in the witness and then counsel may</p> <p>20 proceed.</p> <p>21 ZUBAIR SHAFIQ, PH.D.,</p> <p>22 sworn in personally as a witness by the Certified</p> <p>23 Shorthand Reporter, testified as follows:</p> <p>24 //</p> <p>25 //</p>

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<p style="text-align: right;">Page 10</p> <p>1 EXAMINATION</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Good morning, Dr. Shafiq. How are you</p> <p>4 today?</p> <p>5 A. Morning.</p> <p>6 Q. Am I saying your name correctly?</p> <p>7 A. Yes.</p> <p>8 Q. Could you please state your name for the</p> <p>9 record?</p> <p>10 A. Can I answer?</p> <p>11 Q. Yes.</p> <p>12 A. My name is Zubair Shafiq, Z-u-b-a-i-r,</p> <p>13 S-h-a-f-i-q.</p> <p>14 Q. Thank you, Dr. Shafiq.</p> <p>15 And could you please state your address?</p> <p>16 A. My address, office or home address?</p> <p>17 Q. Office.</p> <p>18 A. Office address is 3043 Kemper Hall, Davis,</p> <p>19 California.</p> <p>20 Q. My name is Gayle Klein and I represent the</p> <p>21 defendant in this action.</p> <p>22 Do you understand that?</p> <p>23 A. Yes.</p> <p>24 Q. And have you given your deposition before?</p> <p>25 A. Yes.</p>	<p style="text-align: right;">Page 12</p> <p>1 reporter who's taking down everything you say;</p> <p>2 correct?</p> <p>3 A. Yes.</p> <p>4 Q. Therefore, we'll need a verbal answer from</p> <p>5 you.</p> <p>6 Is that okay?</p> <p>7 A. Yes.</p> <p>8 Q. Okay. And because the court reporter is</p> <p>9 taking down everything we say, I will endeavor to</p> <p>10 let you finish your answer before I start my next</p> <p>11 question.</p> <p>12 And if you could please afford me the</p> <p>13 courtesy of letting me finish my question before you</p> <p>14 answer, so that we don't drive the court reporter</p> <p>15 crazy.</p> <p>16 Is that okay?</p> <p>17 A. Yes.</p> <p>18 Q. If you don't understand a question that I</p> <p>19 ask, will you ask me to repeat it or rephrase it?</p> <p>20 A. Will do.</p> <p>21 Q. Okay. Therefore, is it fair for me to --</p> <p>22 is it fair for the judge and the jury to understand</p> <p>23 that you have understood my question if you don't</p> <p>24 ask me to repeat it or rephrase it?</p> <p>25 A. Sounds reasonable.</p>
<p style="text-align: right;">Page 11</p> <p>1 Q. How many times have you been deposed?</p> <p>2 A. I've been deposed about five times.</p> <p>3 Q. Have you ever testified at a trial?</p> <p>4 A. No.</p> <p>5 Q. Have you ever testified in court at any</p> <p>6 hearing?</p> <p>7 A. Yes.</p> <p>8 Q. How many times have you testified in a</p> <p>9 court hearing?</p> <p>10 A. One time.</p> <p>11 Q. Before we get started today, I just want</p> <p>12 to go over some ground rules. Even though you've</p> <p>13 been deposed, I want to make sure we're clear with</p> <p>14 our agreements on the record.</p> <p>15 Is that okay?</p> <p>16 A. Yes.</p> <p>17 Q. Okay. You've been sworn to tell the</p> <p>18 truth.</p> <p>19 You understand that?</p> <p>20 A. Yes.</p> <p>21 Q. And you're testifying today as if you're</p> <p>22 in front of a judge or a jury; correct?</p> <p>23 A. Yes.</p> <p>24 Q. And you understand that even though</p> <p>25 there's a videographer here, there's a court</p>	<p style="text-align: right;">Page 13</p> <p>1 Q. Okay. Is there any reason you cannot</p> <p>2 testify truthfully today?</p> <p>3 A. No.</p> <p>4 Q. This is not a marathon, so if you need to</p> <p>5 take a break at any time, just let me know and we</p> <p>6 can take a break. I'll just ask that you answer the</p> <p>7 pending question, if there is one, before we break.</p> <p>8 Is that acceptable?</p> <p>9 A. Sounds good.</p> <p>10 Q. Okay. You understand that we're here</p> <p>11 today because 17 states and commonwealths have sued</p> <p>12 Google over its advertising technology; correct?</p> <p>13 A. Yes.</p> <p>14 Q. And this case does not relate to other</p> <p>15 Google products, such as Search or Play; right?</p> <p>16 A. Yes.</p> <p>17 Q. You describe your -- you've been retained</p> <p>18 by the states as an expert witness to provide</p> <p>19 testimony; correct?</p> <p>20 A. Yes.</p> <p>21 Q. And your assignment was to opine as to</p> <p>22 whether privacy is a legitimate justification for</p> <p>23 Google's conduct at issue; is that correct?</p> <p>24 A. Yes.</p> <p>25 Q. Do you know what the specific conduct at</p>

4 (Pages 10 - 13)

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<p style="text-align: right;">Page 14</p> <p>1 issue is?</p> <p>2 A. I describe that extensively in my report.</p> <p>3 Do you want me to summarize it from the report for</p> <p>4 you or just give you high-level summary?</p> <p>5 Q. Well, I guess my question is, where did</p> <p>6 you get the conduct that you believe is at issue?</p> <p>7 MR. ROBINSON: Professor Shafiq, I'm going to</p> <p>8 instruct you to answer to the extent that you do not</p> <p>9 reveal communications with counsel. But you may --</p> <p>10 you may answer to the extent that it does not cover</p> <p>11 those subjects.</p> <p>12 THE WITNESS: I was given an assignment in this</p> <p>13 case by counsel to offer rebuttal opinions to the</p> <p>14 opinions that were offered in the expert reports of</p> <p>15 Google's experts.</p> <p>16 (Reporter seeks clarification.)</p> <p>17 THE WITNESS: Rebuttal opinions.</p> <p>18 Can you please repeat where I ended? I</p> <p>19 lost my train of thought.</p> <p>20 (Record read by reporter as follows:</p> <p>21 "Answer: I was given an assignment in</p> <p>22 this case by counsel to offer rebuttal</p> <p>23 opinions to the opinions that were offered</p> <p>24 in the expert reports of Google's</p> <p>25 experts.")</p>	<p style="text-align: right;">Page 16</p> <p>1 discusses a number of different issues, including</p> <p>2 some of the issues that I address in my report.</p> <p>3 Q. But when you talk about you have to</p> <p>4 address Google's conduct at issue in this case, the</p> <p>5 conduct at issue is reflected in Shafiq Exhibit 1,</p> <p>6 correct, the Fourth Amended Complaint?</p> <p>7 A. Yes. There is overlap between the conduct</p> <p>8 that is described in the complaint, the opinions</p> <p>9 that are offered by Google's experts, and the</p> <p>10 opinions that I respond to in my report.</p> <p>11 Q. You graduated with a Ph.D. in computer</p> <p>12 science from Michigan State University in 2014; is</p> <p>13 that correct?</p> <p>14 A. Yes.</p> <p>15 Q. And then you took a job as an assistant</p> <p>16 professor of computer science at the University of</p> <p>17 Iowa in 2014?</p> <p>18 A. Yes.</p> <p>19 Q. And you were there until 2020?</p> <p>20 A. Yes.</p> <p>21 Q. And then you took a job at the University</p> <p>22 of California, Davis?</p> <p>23 A. Yes.</p> <p>24 Q. Where you are an associate professor?</p> <p>25 A. Yes.</p>
<p style="text-align: right;">Page 15</p> <p>1 THE WITNESS: And Google's experts in their</p> <p>2 reports offer certain opinions that get to the issue</p> <p>3 of whether or not privacy is a legitimate</p> <p>4 justification for certain conduct, and that was the</p> <p>5 scope of my assignment. I think that's a high-level</p> <p>6 way to put it.</p> <p>7 MS. KLEIN: Could you mark . . .</p> <p>8 (Deposition Exhibit 1 was marked.)</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. Dr. Shafiq, the court reporter has put in</p> <p>11 front of you what's been marked as Shafiq Exhibit 1,</p> <p>12 which is the Fourth Amended Complaint in this</p> <p>13 action.</p> <p>14 Do you see that?</p> <p>15 (Witness reviews document.)</p> <p>16 A. Yes.</p> <p>17 Q. And is Shafiq Exhibit 1, the Fourth</p> <p>18 Amended Complaint, one of the documents that you</p> <p>19 reviewed in connection with offering the opinions</p> <p>20 reflected in your report?</p> <p>21 A. Yes.</p> <p>22 Q. And Shafiq Exhibit 1, the Fourth Amended</p> <p>23 Complaint, delineates Google's conduct at issue;</p> <p>24 correct?</p> <p>25 A. I've read the complaint. The complaint</p>	<p style="text-align: right;">Page 17</p> <p>1 (Deposition Exhibit 2 was marked.)</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Dr. Shafiq, the court reporter has put in</p> <p>4 front of you what's been marked as Shafiq Exhibit 2.</p> <p>5 Is this a true and correct copy of your</p> <p>6 curriculum vitae?</p> <p>7 (Witness reviews document.)</p> <p>8 A. Yes.</p> <p>9 Q. And you put together your CV; correct?</p> <p>10 A. Yes.</p> <p>11 Q. And your CV reflects that your research</p> <p>12 interests are web privacy, Internet measurement,</p> <p>13 Internet security and computer networks; correct?</p> <p>14 A. Yes.</p> <p>15 Q. You are not an expert in consumer</p> <p>16 behavior; is that correct?</p> <p>17 A. As part of my research in security and</p> <p>18 privacy, we conduct research into how users of</p> <p>19 various tools and services use those products as it</p> <p>20 pertains to security and privacy of those products.</p> <p>21 So in that sense, my research does entail</p> <p>22 not just technical work, but gets to the issue of</p> <p>23 building more secure, more private tools. It also</p> <p>24 addresses the use of those tools by consumers and</p> <p>25 other stakeholders.</p>

5 (Pages 14 - 17)

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<p style="text-align: right;">Page 18</p> <p>1 MS. KLEIN: Objection as nonresponsive and move</p> <p>2 to strike.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. My question to you, sir, was, are you an</p> <p>5 expert in consumer behavior?</p> <p>6 MR. ROBINSON: Objection; form.</p> <p>7 THE WITNESS: Subject to what I described to</p> <p>8 you earlier, that my research does touch on how</p> <p>9 consumers use security and privacy features in</p> <p>10 various products, the core emphasis of my research</p> <p>11 is not consumer behavior. Is that what you called</p> <p>12 it? Yes.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. Yes.</p> <p>15 So you agree with me then, sir, you are</p> <p>16 not an expert in consumer behavior; correct?</p> <p>17 MR. ROBINSON: Objection; form.</p> <p>18 THE WITNESS: Subject to what I just mentioned,</p> <p>19 if you put that aside, I am not an expert in</p> <p>20 consumer behavior.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. And with respect to your work putting</p> <p>23 together your opinions in this case, you did not do</p> <p>24 a survey of consumers; correct?</p> <p>25 A. I did not conduct a survey for the</p>	<p style="text-align: right;">Page 20</p> <p>1 THE WITNESS: So I published in peer-reviewed</p> <p>2 research and conferences where research related to</p> <p>3 linguistics is published.</p> <p>4 So if you want to put that aside, and</p> <p>5 similar to my answer to your previous question, the</p> <p>6 core expertise that I have is not linguistics,</p> <p>7 per se.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. You reference computational linguistics.</p> <p>10 What is that?</p> <p>11 A. Computational linguistics is simply</p> <p>12 linguistics -- the study of the field of linguistics</p> <p>13 or issues surrounding the field of linguistics using</p> <p>14 computational tools.</p> <p>15 Q. Such as?</p> <p>16 A. I will give you a very simple example to</p> <p>17 start off. One of the common methodologies that</p> <p>18 is -- that is used in linguistics is to count words.</p> <p>19 So I've published papers where we have done studies</p> <p>20 where we have counted the user for different terms</p> <p>21 and phases in various documents.</p> <p>22 We've done, like, much, much more advanced</p> <p>23 analysis, where this is a simple example to get you</p> <p>24 started.</p> <p>25 Q. You're not an expert in the meaning of</p>
<p style="text-align: right;">Page 19</p> <p>1 purposes of my report in this case.</p> <p>2 Q. And you did not speak with or do any</p> <p>3 research specifically on consumers, specifically, in</p> <p>4 putting together your report? I'm going to strike</p> <p>5 that. That was a bad question.</p> <p>6 You did not do any specific research</p> <p>7 related to consumer behavior when putting together</p> <p>8 your opinions with respect to this report?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: I would not agree with that.</p> <p>11 BY MS. KLEIN:</p> <p>12 Q. You do not agree with that.</p> <p>13 Which consumers did you contact with</p> <p>14 respect to your report in this case?</p> <p>15 A. Like I said earlier, I did not conduct a</p> <p>16 survey for the purposes of my report.</p> <p>17 Q. You're not an expert in linguistics</p> <p>18 either, are you?</p> <p>19 MR. ROBINSON: Objection; form.</p> <p>20 THE WITNESS: Similar to my answer to the</p> <p>21 previous question, I have published research papers</p> <p>22 in conferences on computational linguistics, so my</p> <p>23 research is interdisciplinary. So I have some</p> <p>24 expertise --</p> <p>25 (Reporter seeks clarification.)</p>	<p style="text-align: right;">Page 21</p> <p>1 words, are you?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: Can you clarify "meaning of</p> <p>4 words"?</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Sure.</p> <p>7 Are you an expert in the meaning of</p> <p>8 everyday words?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: I apologize, I'm just, like,</p> <p>11 failing to comprehend, like, what are you exactly</p> <p>12 trying to ask me?</p> <p>13 I mean, my job is to write words, to read</p> <p>14 papers. I mean, it seems like such an elementary</p> <p>15 thing, that to be an academic scientist you need to</p> <p>16 be able to understand and read words, not just in</p> <p>17 lay context, but also from a scientific standpoint.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. To the extent you have an understanding of</p> <p>20 scientific words, you're not here offering an</p> <p>21 opinion on everyday regular words, are you?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: In various parts of my report, I</p> <p>24 describe meaning of various terms. I assess that</p> <p>25 from a scientific standpoint, as it would be</p>

6 (Pages 18 - 21)



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<p style="text-align: right;">Page 22</p> <p>1 understood, by example, for -- by a computer science 2 expert in the field of computer science or by 3 consumers, because in my area of research, a lot of 4 our research deals with consumer privacy. 5 So it is important to understand and 6 investigate words as they would be perceived by 7 consumers. So I touch on some of those issues in my 8 report as well. 9 BY MS. KLEIN: 10 Q. Are you an expert in organizational 11 psychology? 12 A. No. 13 Q. Are you an expert in industrial 14 organization? 15 MR. ROBINSON: Objection; form. 16 THE WITNESS: No. 17 BY MS. KLEIN: 18 Q. Are you an expert in auction design? 19 A. No. 20 Q. Are you an economist? 21 A. No. 22 Q. Are you an expert in economic theory? 23 A. No. 24 Q. Are you a mind reader? 25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 24</p> <p>1 date. 2 Q. You issued your report in this action on 3 September 9th, 2024; correct? 4 A. Yes. 5 Q. Has anyone hired you in the last month to 6 be an expert? 7 A. Can I ask a question to counsel? 8 Q. That's a "yes" or "no" question, so that 9 wouldn't cause you to reveal -- 10 MR. ROBINSON: To the extent you can answer it 11 a simple "yes" or "no," without divulging any 12 information that would be covered by any protective 13 orders or that is covered by protective orders, I 14 would instruct you not to answer, but you can answer 15 yes or no. 16 THE WITNESS: I'm hesitating because I've 17 signed an NDA. 18 BY MS. KLEIN: 19 Q. My question to you is not about what. 20 I'm just asking have you been engaged to 21 provide expert testimony since September 9th, 2024 22 by anyone else? 23 A. Without revealing any information about 24 the contents of those matters, the nature of those 25 matters, the answer is yes.</p>
<p style="text-align: right;">Page 23</p> <p>1 THE WITNESS: Is that a serious question? 2 BY MS. KLEIN: 3 Q. It is a serious question, sir. 4 Are you a mind reader? 5 MR. ROBINSON: Same objection. 6 THE WITNESS: No. 7 BY MS. KLEIN: 8 Q. I want to focus for a moment on the work 9 that you have done for U.C. Davis since you -- I 10 want to -- sorry, I want to focus on the expert work 11 that you've done since you joined U.C. Davis in 12 2020, which is page 16 of your CV. 13 Can you turn with me to page 16 of Shafiq 14 Exhibit 2? 15 A. So not the academic papers? 16 Q. No. I want to focus on your expert 17 testimony for now. 18 Is the listing of cases on page 16 of 19 Exhibit 2, your CV, a full list of your expert 20 testimony and reports in the last 10 years? 21 A. I believe so. 22 Q. There's nothing to add to it, correct, 23 since you've issued your report? 24 A. I honestly don't remember off the top of 25 my head right now, but I think this is fairly up to</p>	<p style="text-align: right;">Page 25</p> <p>1 Q. And in how many different -- how many 2 different engagements are there beyond what's 3 reflected in your CV on page 16? 4 A. One. 5 Q. And without divulging the nature of that 6 engagement, have you been engaged to testify against 7 Google in that matter? 8 MR. ROBINSON: Dr. Shafiq, I'm going to 9 instruct you not to answer on the basis of your 10 protective orders and signed NDAs. 11 THE WITNESS: I've signed an NDA as part of 12 that engagement and I believe I cannot reveal 13 parties or any nature -- any information about the 14 nature of that case. 15 BY MS. KLEIN: 16 Q. It relates to a lawsuit? I'm not going to 17 ask any further than that. 18 MR. ROBINSON: Same instruction not to answer 19 on the basis of protective orders and NDAs, the 20 non-disclosure agreements that you have signed. 21 BY MS. KLEIN: 22 Q. Go ahead. 23 A. Can you please rephrase the question? 24 Q. I'm just -- I'm going to just make the 25 record that I believe that to the extent that you've</p>



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<p style="text-align: right;">Page 26</p> <p>1 been engaged to testify against Google, it goes to</p> <p>2 your bias as a witness, and so I'm likely going to</p> <p>3 move to compel to the extent you believe that you</p> <p>4 cannot respond to that question.</p> <p>5 MR. ROBINSON: And I'll just make our position</p> <p>6 clear that counsel is perfectly fine to ask the</p> <p>7 expert about his assignment and opinions in this</p> <p>8 matter, but regarding any other outside potential</p> <p>9 opinions or consultancies, that there are external</p> <p>10 protective orders and NDAs that apply here that</p> <p>11 would bind the expert.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. Are you refusing to answer my question,</p> <p>14 sir?</p> <p>15 A. Can you please repeat your question?</p> <p>16 Q. Yes.</p> <p>17 Is the additional engagement in which</p> <p>18 you've been retained since September 9, 2024 adverse</p> <p>19 to Google?</p> <p>20 MR. ROBINSON: Same instruction not to answer</p> <p>21 on the same basis.</p> <p>22 THE WITNESS: At the instruction of counsel,</p> <p>23 I'm not going to answer the question.</p> <p>24 BY MS. KLEIN:</p> <p>25 Q. Now, your expert testimony and reports in</p>	<p style="text-align: right;">Page 28</p> <p>1 been retained by the plaintiff?</p> <p>2 A. Yes.</p> <p>3 Q. And five of these matters are against</p> <p>4 Google?</p> <p>5 A. Your count is correct.</p> <p>6 Q. You don't like Big Tech very much, do you?</p> <p>7 MR. ROBINSON: Objection; form.</p> <p>8 THE WITNESS: I would not agree with that.</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. Why not?</p> <p>11 A. I do not agree with that statement, that I</p> <p>12 do not like what you're calling Big Tech.</p> <p>13 Q. Your hourly rate in this engagement is</p> <p>14 \$750?</p> <p>15 A. Yes.</p> <p>16 Q. In other cases, you've charged \$500 an</p> <p>17 hour; correct?</p> <p>18 A. The rate that I have charged has changed</p> <p>19 recently.</p> <p>20 Q. From \$500 an hour to \$750 an hour?</p> <p>21 A. That's correct.</p> <p>22 Q. When did it change?</p> <p>23 A. Earlier this year.</p> <p>24 Q. When?</p> <p>25 A. Sitting here today, I cannot recall from</p>
<p style="text-align: right;">Page 27</p> <p>1 the past 10 years, you have a number of cases</p> <p>2 listed.</p> <p>3 Do you see that on page 16 of your CV?</p> <p>4 A. Yes.</p> <p>5 Q. There are 16 of them; is that correct?</p> <p>6 A. Yes.</p> <p>7 Q. And you have been engaged in all 16 of</p> <p>8 those matters since you became an associate</p> <p>9 professor at U.C. Davis; correct?</p> <p>10 A. Yes.</p> <p>11 Q. So although it says in the past 10 years,</p> <p>12 really, it's within the last four years; correct?</p> <p>13 A. Yes.</p> <p>14 Q. And at least five of those cases are</p> <p>15 adverse to Google; right?</p> <p>16 A. Yes.</p> <p>17 Q. And one of those cases is against Meta?</p> <p>18 A. Can you point me to the case, which one?</p> <p>19 Q. In re Meta Pixel Healthcare Litigation,</p> <p>20 22-cv-03580.</p> <p>21 A. That's correct.</p> <p>22 Q. And one of those matters is against</p> <p>23 TikTok; correct?</p> <p>24 A. Yes.</p> <p>25 Q. And in all 16 of these matters, you've</p>	<p style="text-align: right;">Page 29</p> <p>1 memory.</p> <p>2 Q. Why did you raise your rate by a full</p> <p>3 third this year?</p> <p>4 A. I discussed at a high level with my</p> <p>5 colleagues who were being engaged in similar</p> <p>6 engagements and I was offered advice to increase the</p> <p>7 rate.</p> <p>8 Q. How many hours have you spent on this</p> <p>9 engagement?</p> <p>10 A. I don't recall it perfectly from memory.</p> <p>11 Q. Are you invoicing monthly?</p> <p>12 A. Yes.</p> <p>13 Q. How much money have you invoiced the</p> <p>14 plaintiffs in this case?</p> <p>15 A. Sitting here today, I do not perfectly</p> <p>16 recall from memory.</p> <p>17 Q. Let's have an estimate. How much?</p> <p>18 A. If I have to guess, will be around -- my</p> <p>19 work in this case is around -- about hundred hours.</p> <p>20 Q. So that's about \$75,000 to date?</p> <p>21 A. Should be in that ballpark.</p> <p>22 Q. Does that include the time you spent</p> <p>23 preparing for your deposition?</p> <p>24 A. I mean, we are in the deposition right</p> <p>25 now, so I have not issued an invoice for this work</p>

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<p style="text-align: right;">Page 30</p> <p>1 that is happening right now.</p> <p>2 Q. And your report says you use an outside</p> <p>3 consulting firm to assist you; correct?</p> <p>4 A. That is correct.</p> <p>5 Q. And their name is Keystone Analytics?</p> <p>6 A. I'm not sure if the full name says</p> <p>7 "Analytics," but it is Keystone.</p> <p>8 Q. I'm sorry. You're correct. Keystone</p> <p>9 Strategy. Is that correct?</p> <p>10 A. I've heard that name, and I think another</p> <p>11 name I've seen is called Keystone AI.</p> <p>12 Q. How did you find Keystone?</p> <p>13 MR. ROBINSON: Going to instruct you not to</p> <p>14 answer to the extent it would reveal communications</p> <p>15 with counsel in this case.</p> <p>16 MS. KLEIN: I'm sorry, but that's not an</p> <p>17 appropriate privilege question. I asked him how did</p> <p>18 he find Keystone.</p> <p>19 MR. ROBINSON: The basis is in the Court's</p> <p>20 expert stipulation, Section 5.1, regarding</p> <p>21 communications between counsel and testifying</p> <p>22 expert -- testifying expert and any consultant and</p> <p>23 staff. That's the basis of the objection,</p> <p>24 instruction.</p> <p>25 MS. KLEIN: I did not ask him any</p>	<p style="text-align: right;">Page 32</p> <p>1 Anna.</p> <p>2 Q. What's her last name?</p> <p>3 A. That's her first name.</p> <p>4 Q. What is her last name?</p> <p>5 A. I can't recall from memory. I think I</p> <p>6 know it, but I don't want to give you wrong answer.</p> <p>7 Q. Who else at Keystone did you interview?</p> <p>8 A. Another person I interviewed, that</p> <p>9 person's name is James.</p> <p>10 Q. Do you know James' last name?</p> <p>11 A. Same issue, because I don't use last names</p> <p>12 in my day-to-day communications, I do not remember</p> <p>13 exactly what his last name is.</p> <p>14 Q. Did you interview anybody else before --</p> <p>15 at Keystone before deciding to use them in this</p> <p>16 engagement?</p> <p>17 A. There was one other person, but I cannot</p> <p>18 recall that person's name right now.</p> <p>19 Q. And what does Anna do, what is her</p> <p>20 expertise?</p> <p>21 A. Broadly speaking, she has a Ph.D. in a</p> <p>22 STEM field.</p> <p>23 (Reporter seeks clarification.)</p> <p>24 A. STEM, S-T-E-M, all caps.</p> <p>25 Q. Do you know which field?</p>
<p style="text-align: right;">Page 31</p> <p>1 communication. I just said how did you find</p> <p>2 Keystone.</p> <p>3 MR. ROBINSON: That potentially and likely</p> <p>4 implicates those protected communications.</p> <p>5 MS. KLEIN: The fact of how he found them is</p> <p>6 not a communication.</p> <p>7 MR. ROBINSON: Stand by the objection and</p> <p>8 instruction on the basis of the expert stipulation,</p> <p>9 Section 5.1.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. Did you know of Keystone Strategy or</p> <p>12 Keystone AI before you were retained in this action</p> <p>13 on -- in March of 2024?</p> <p>14 A. No.</p> <p>15 Q. When Keystone was introduced to you, what</p> <p>16 did you do, if anything, to understand what their</p> <p>17 expertise is that could help you?</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 THE WITNESS: I interviewed them.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. Who did you interview at Keystone?</p> <p>22 A. I interviewed a number of people at</p> <p>23 Keystone.</p> <p>24 Q. Who?</p> <p>25 A. One of the person, that person's name is</p>	<p style="text-align: right;">Page 33</p> <p>1 A. I'm forgetting the exact topic, but we</p> <p>2 discussed that to some extent.</p> <p>3 Q. Is Anna actually working on this</p> <p>4 engagement?</p> <p>5 MR. ROBINSON: You may answer.</p> <p>6 THE WITNESS: Anna has conducted some work</p> <p>7 under my guidance.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Okay. What has Anna done under your</p> <p>10 guidance?</p> <p>11 A. For example, Anna has conducted some</p> <p>12 searches.</p> <p>13 Q. Of what?</p> <p>14 A. Of documents.</p> <p>15 Q. What documents?</p> <p>16 A. There were a number of -- a large number</p> <p>17 of documents produced in discovery, and one of the</p> <p>18 ways I wanted to get help from the team from</p> <p>19 Keystone was to conduct searches to identify</p> <p>20 documents that may be relevant to my assignments in</p> <p>21 this case.</p> <p>22 Q. How much time has Anna spent searching for</p> <p>23 documents?</p> <p>24 MR. ROBINSON: Professor Shafiq, on the basis</p> <p>25 of the expert stipulation, to the extent you know</p>

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<p style="text-align: right;">Page 34</p> <p>1 about the total hours spent by staff members in 2 connection with your opinion, you may -- you may 3 answer, but I'll instruct you not to answer 4 regarding more granular questions such as this. 5 But if you know about the total hours 6 staff members have spent, you may answer. 7 THE WITNESS: Can you please rephrase your 8 question? 9 BY MS. KLEIN: 10 Q. I said how much time has Anna spent 11 searching documents in this case, if you know? 12 MR. ROBINSON: Same instruction regarding if 13 you know about total hours spent by staff, you may 14 answer, but otherwise I will instruct you not to 15 answer regarding more granular questions. 16 THE WITNESS: I don't know. 17 BY MS. KLEIN: 18 Q. How much time has Keystone spent working 19 on this engagement under your direction? 20 A. I don't know. 21 Q. No clue? 22 A. Sitting here today, I do not know. 23 Q. A couple of hours? 24 A. It's probably more than a couple of hours. 25 Q. Fifty hours?</p>	<p style="text-align: right;">Page 36</p> <p>1 THE WITNESS: If I have to speculate, it is 2 probably more than 50 hours. 3 BY MS. KLEIN: 4 Q. Can you speculate and give me a ballpark 5 as to the total number of hours, please, spent? 6 MR. ROBINSON: Objection to form. 7 THE WITNESS: I cannot do that. 8 BY MS. KLEIN: 9 Q. Besides doing some searches for documents, 10 what else has Keystone done to assist you? 11 A. They have also helped me with the 12 formatting of my report. 13 Q. Did they write any of your report? 14 MR. ROBINSON: Objection; form. 15 THE WITNESS: The team at Keystone, they 16 compiled certain appendices as part of my report 17 under my direction. So they have written those 18 parts of the report. 19 BY MS. KLEIN: 20 Q. They wrote the appendices? 21 A. They have written some of the appendices. 22 Q. What about the body of the report, did 23 they write any of the body of the report? 24 MR. ROBINSON: Objection; form. 25 THE WITNESS: I got some feedback from them</p>
<p style="text-align: right;">Page 35</p> <p>1 A. I will have to ask them. 2 Q. You have no clue as you sit here how much 3 time they've spent working on this case? 4 MR. ROBINSON: Objection; form. 5 THE WITNESS: Like I said earlier, it is more 6 than, as you were asking, a couple of hours. 7 BY MS. KLEIN: 8 Q. But you don't know if it was a month's 9 worth of work or a day's worth of work? 10 MR. ROBINSON: Objection; form. 11 THE WITNESS: I don't want to give unreliable 12 answer. I will have to ask them. 13 BY MS. KLEIN: 14 Q. Well, I'm trying to get a sense of how 15 much time Keystone has spent, and your counsel is 16 saying that you're limited to the number of hours. 17 So as you sit here today, can you please 18 estimate the number of hours that Keystone has 19 spent? 20 MR. ROBINSON: Objection; form. 21 THE WITNESS: I will have to wildly speculate 22 and I don't want to do that. 23 BY MS. KLEIN: 24 Q. I'm asking you to do that. 25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 37</p> <p>1 when I drafted various sections of the report. For 2 example -- 3 MR. ROBINSON: Professor Shafiq, I'll ask 4 you -- instruct you not to reveal any content of any 5 communications, including specifically what feedback 6 you received, on the basis of the expert 7 stipulation. 8 BY MS. KLEIN: 9 Q. My question to you, sir, was, did they 10 write any of the body of the report? 11 A. No. 12 Q. Now -- 13 MS. KLEIN: You guys want the report? You guys 14 want the report? 15 MR. ROBINSON: Sure. You went to the trouble 16 of printing it, so . . . 17 (Deposition Exhibit 3 was marked.) 18 BY MS. KLEIN: 19 Q. Professor Shafiq, the court reporter has 20 put in front of you what's been marked as Shafiq 21 Exhibit 3. 22 Is this a true and correct copy of your 23 report in this case dated September 9, 2024? 24 (Witness reviews document.) 25 A. It looks like it.</p>

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<p style="text-align: right;">Page 38</p> <p>1 Q. And unfortunately the report doesn't have</p> <p>2 page numbers on it. But I will represent to you</p> <p>3 that through paragraph 85, which concludes the</p> <p>4 body -- what I would call the body of the report, is</p> <p>5 38 pages.</p> <p>6 And, actually, you can see in the index on</p> <p>7 page 2 of the report that that is correct.</p> <p>8 Do you see that?</p> <p>9 A. Yes.</p> <p>10 Q. How much of the hundred hours that you've</p> <p>11 worked on this engagement did you spend writing the</p> <p>12 body of the report?</p> <p>13 MR. ROBINSON: Going to instruct the witness</p> <p>14 not to answer questions that would violate the</p> <p>15 expert stipulation regarding specific hour</p> <p>16 allocations of time spent.</p> <p>17 You may answer questions globally about</p> <p>18 how much time you spent on this matter.</p> <p>19 MS. KLEIN: I believe that the -- it goes to</p> <p>20 the allocations not of his time but him and the</p> <p>21 consultants.</p> <p>22 MR. ROBINSON: Well, you've asked him already</p> <p>23 about -- the total allocation of his time and the</p> <p>24 consultants', and that's the extent to which you may</p> <p>25 answer -- ask questions under the expert</p>	<p style="text-align: right;">Page 40</p> <p>1 A. Can I close Exhibit --</p> <p>2 Q. Yes, for now. Keep it nearby, though.</p> <p>3 We'll come back to it. Exhibit 2, I'm going back</p> <p>4 to, your CV.</p> <p>5 A. Yes.</p> <p>6 Q. I apologize if I asked this question</p> <p>7 before, but you were engaged by the plaintiffs in</p> <p>8 all 16 of these expert testimony reports in the past</p> <p>9 four years; correct?</p> <p>10 A. That's correct.</p> <p>11 Q. In the first case listed, it's Calhoun</p> <p>12 versus Google.</p> <p>13 Do you see that?</p> <p>14 A. Yes.</p> <p>15 Q. How much were you paid for your testimony</p> <p>16 in the Calhoun versus Google case?</p> <p>17 A. Sitting here today, I do not recall from</p> <p>18 memory. That was many years ago.</p> <p>19 Q. Well, the case is a -- do you see on the</p> <p>20 left it says 4:20-cv-05146?</p> <p>21 A. Yes.</p> <p>22 Q. So this means that the case was filed in</p> <p>23 2020; correct?</p> <p>24 A. Is that a question?</p> <p>25 Q. Yes, that the -- you said it was many</p>
<p style="text-align: right;">Page 39</p> <p>1 stipulation.</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Are you refusing to answer my question?</p> <p>4 A. As I understand counsel's instruction, I</p> <p>5 can only tell you about, as I've already done, give</p> <p>6 you a ballpark estimate of the number of hours I</p> <p>7 have spent in this case.</p> <p>8 But counsel has instructed me to not to</p> <p>9 answer more substantial -- more substantive</p> <p>10 questions about allocation of time to -- for</p> <p>11 specific assignments in this case.</p> <p>12 Q. Did you do any document searches on your</p> <p>13 own, sir?</p> <p>14 A. Yes.</p> <p>15 Q. On what system?</p> <p>16 A. We use multiple systems.</p> <p>17 Q. Did you do any searching of the documents</p> <p>18 that Google produced in this action on your own?</p> <p>19 A. Yes.</p> <p>20 Q. Okay. Did you consider any other</p> <p>21 consulting teams to provide support to you than</p> <p>22 Keystone?</p> <p>23 A. No.</p> <p>24 Q. Going back to page 16 of your curriculum</p> <p>25 vitae --</p>	<p style="text-align: right;">Page 41</p> <p>1 years ago. It wasn't many years ago. You've given</p> <p>2 your testimony in the last four years in that case;</p> <p>3 right?</p> <p>4 A. Yes.</p> <p>5 Q. Okay. So you can't remember how much</p> <p>6 money you were paid to testify against Google in</p> <p>7 that case?</p> <p>8 A. No.</p> <p>9 Q. Was it more than \$5,000?</p> <p>10 A. I think so.</p> <p>11 Q. Was it more than \$10,000?</p> <p>12 A. I think so.</p> <p>13 Q. Was it more than \$20,000?</p> <p>14 A. It's hard for me to, beyond that, give you</p> <p>15 a more granular answer without checking my records.</p> <p>16 Q. What about the second case you listed,</p> <p>17 In re Google RTB Consumer Privacy Litigation?</p> <p>18 Do you see that?</p> <p>19 A. Yes.</p> <p>20 Q. How much money have you been paid to date</p> <p>21 in the In re Google RTB Consumer Privacy Litigation</p> <p>22 case?</p> <p>23 MR. ROBINSON: Professor Shafiq, I'm going to</p> <p>24 instruct you not to answer. We've already gone</p> <p>25 already beyond the expert stipulation here. You may</p>

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<p style="text-align: right;">Page 42</p> <p>1 answer questions about your total compensation in 2 this matter, but counsel is not entitled to ask 3 questions about compensation in matters that are not 4 this one at issue. 5 So on that basis, I'm going to instruct 6 you not to answer. 7 MS. KLEIN: Which section are you saying 8 that . . . 9 MR. ROBINSON: Yes, I'm looking at 10 Section 5.1.5, page 8. The second full sentence 11 says, "Notwithstanding this provision, any party may 12 inquire into a testifying expert's compensation in 13 this matter." 14 And that's why I've allowed questions 15 about compensation in this matter. But I'm 16 instructing the witness not to answer about 17 compensation in outside matters. 18 MS. KLEIN: Well, this doesn't preclude him 19 from testifying about compensation in other matters, 20 and it goes specifically to this witness' bias 21 because he's testified against Google in four other 22 matters in the last four years and we are entitled 23 to understand how much he's been paid to testify 24 against Google. 25 MR. ROBINSON: Section 5.1 -- or Section 5 is</p>	<p style="text-align: right;">Page 44</p> <p>1 paid to testify in State of -- State of Texas versus 2 Google, 22-01-88230, in the District Court, Victoria 3 County, Texas? 4 MR. ROBINSON: Same instruction, same basis in 5 the parties' expert stipulation. 6 BY MS. KLEIN: 7 Q. Are you refusing to answer my question? 8 A. At the instruction of counsel, I'm not 9 going to answer the question. 10 Q. Sir, you're aware -- well, how much do you 11 make as a associate professor at U.C. Davis? 12 A. I will have to check my pay stubs. This 13 is not something I check every day. 14 Q. You're aware that U.C. Davis has a Step 15 Plus system, where it compensates its professors 16 based on a particular system, pay scale? 17 A. That's correct. 18 Q. Where are you in that pay scale? 19 A. I recently got promoted, so I don't 20 remember exactly which step I'm at, but . . . 21 Q. Where were you before, do you remember? 22 A. I've been recently -- I don't know if it 23 is official yet, but I've been promoted to some step 24 in the professor section of that scale. But I don't 25 know exactly which step in the professor section of</p>
<p style="text-align: right;">Page 43</p> <p>1 titled "Expert Materials Not Requiring Disclosure." 2 This is all under that not requiring disclosure. 3 There's nothing in this expert stipulation that 4 allows you to ask questions about compensation in 5 outside matters. 6 MS. KLEIN: I disagree with that. 7 BY MS. KLEIN: 8 Q. Sir, are you refusing to answer how much 9 you've been paid to testify in the last four years 10 in In re Google RTB Consumer Privacy Litigation? 11 MR. ROBINSON: Same instruction not to answer 12 on the same basis. 13 BY MS. KLEIN: 14 Q. Are you refusing to answer my question? 15 A. At the instruction of counsel, I'm not 16 going to answer the question. 17 Q. And are you going to refuse to answer, at 18 the instruction of counsel, how much money you've 19 been paid to testify in the Doe versus Google case? 20 MR. ROBINSON: Same instruction on the same 21 basis. 22 THE WITNESS: I'm going to follow counsel's 23 instruction. 24 BY MS. KLEIN: 25 Q. And I'm going to ask how much you've been</p>	<p style="text-align: right;">Page 45</p> <p>1 that scale I've been promoted to. 2 Q. You've been promoted from associate 3 professor to professor? 4 A. This -- actually, I got to know about this 5 last night, yes. 6 Q. Congratulations. 7 So currently you are being compensated 8 until today on the associate professor scale? 9 A. That's correct. 10 Q. Do you know if you are being compensated 11 at the top of the associate professor scale? 12 A. Yes. 13 Q. The top of the associate professor scale 14 has an annual salary of \$149,500. 15 Does that sound right to you? 16 A. Are you representing to me or are you 17 going to show me this document? 18 Q. I will show it to you if it doesn't sound 19 right to you. 20 A. I know that there are multiple scales for 21 different types of professors at the University of 22 California system. So I would not know if you are 23 reading from the right salary scale document. 24 (Deposition Exhibit 4 was marked.) 25 BY MS. KLEIN:</p>



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<p style="text-align: right;">Page 46</p> <p>1 Q. Professor Shafiq, I have put in front of 2 you what's been marked as Exhibit Shafiq 4. 3 Is this a true and correct copy of the 4 U.C. Davis Step Plus system academic pay scale? 5 A. Seems to be. 6 Q. Okay. Where on the pay scale do you fall? 7 A. I can't remember exactly, but I'm probably 8 associate professor 5 or 5.5. 9 Q. So you make either 146,000 or \$149,500 10 through your teaching at the University of 11 California, Davis? 12 A. That's not correct. 13 Q. What's not correct about that statement? 14 A. I don't know the exact number, but I 15 generally know that I'm paid more than this. 16 Q. How much are you paid? 17 A. I don't remember exactly, but it is more 18 than this. 19 Q. Is it more or less than \$200,000? 20 A. I think it is probably more than \$200,000. 21 Q. Is it more or less than \$250,000? 22 A. That I cannot recall perfectly from 23 memory. 24 Q. Well, do you agree with me that you've 25 made more money in the last year testifying against</p>	<p style="text-align: right;">Page 48</p> <p>1 Q. I'm just asking generally. 2 You issued an opinion in the TikTok case 3 on September 20th, it's public; right? 4 MR. ROBINSON: You may answer the question. 5 THE WITNESS: The reason I'm hesitating to 6 answer the question is I've signed a confidentiality 7 order in that case. 8 BY MS. KLEIN: 9 Q. I'm just asking whether you issued an 10 opinion and it's been attached to a public document. 11 Are you going to make me show you the 12 opinion -- or the opinion before you'll testify that 13 you actually issued an opinion on September 20th? 14 A. I have issued a report -- 15 Q. Okay. 16 A. -- in that case. 17 Q. On September 20th? 18 A. That, I don't recall. 19 Q. Okay. In fact, you've issued two reports 20 in the last several months in the TikTok case; 21 right? 22 MR. ROBINSON: To the extent those are publicly 23 filed documents, they would not conflict with your 24 prior confidentiality obligations. You may answer. 25 THE WITNESS: Yes.</p>
<p style="text-align: right;">Page 47</p> <p>1 Google than you have from the University of 2 California, Davis? 3 MR. ROBINSON: Objection; form. 4 THE WITNESS: I'm not sure. 5 BY MS. KLEIN: 6 Q. It's possible? 7 MR. ROBINSON: Same objection. 8 THE WITNESS: I'm not sure. 9 BY MS. KLEIN: 10 Q. Why aren't you sure? 11 A. I will have to look at my records to be 12 able to reliably answer your question. 13 Q. You've made more money testifying as an 14 expert over the course of the last year, regardless 15 of whether it was Google, than you have from your 16 salary at the University of California, Davis; 17 correct? 18 MR. ROBINSON: Objection; form. 19 THE WITNESS: I don't know exactly but it's 20 probably in the same ballpark. 21 BY MS. KLEIN: 22 Q. You recently offered an opinion in the 23 TikTok case on September 20th; right? 24 A. I -- are you going to show me a document 25 or just --</p>	<p style="text-align: right;">Page 49</p> <p>1 BY MS. KLEIN: 2 Q. And your work in the TikTok case included 3 doing testing on source code in certain TikTok 4 systems; right? 5 MR. ROBINSON: Same instruction. If you know 6 those are publicly filed documents that don't 7 include redactions or anything else that implicate 8 your confidentiality agreements, you may answer. 9 THE WITNESS: I believe my work in that case 10 deals with confidential information that is 11 protected by the court order that I've -- protective 12 order that I've signed in that case. 13 BY MS. KLEIN: 14 Q. You agree with me that you've spent at 15 least a hundred hours on each of your reports that 16 you've issued in the TikTok case? 17 MR. ROBINSON: Objection; form. 18 THE WITNESS: I would not agree with that. 19 BY MS. KLEIN: 20 Q. No? How much time did you spend on the 21 TikTok reports? 22 MR. ROBINSON: Same objection. 23 THE WITNESS: Sitting here today, I do not 24 recall from memory. I'll have to check my records 25 to be able to reliably answer your question.</p>

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<p style="text-align: right;">Page 50</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. It's safe to assume that if your reports</p> <p>3 in TikTok are as robust or even more than your</p> <p>4 report in this case, you made about the same amount</p> <p>5 of money, at least on those two reports?</p> <p>6 MR. ROBINSON: On the basis of the expert</p> <p>7 stipulation, there's no requirement for the expert</p> <p>8 to disclose outside compensation or time efforts on</p> <p>9 outside matters, other than the one at hand.</p> <p>10 On that basis, I'll instruct the witness</p> <p>11 not to answer the question.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. Are you refusing to answer my question?</p> <p>14 A. I'm going to follow the instruction of</p> <p>15 counsel and on the instruction of counsel, I'm not</p> <p>16 going to answer your question.</p> <p>17 Q. Given the fact that you have issued three</p> <p>18 expert reports against Big Tech since March of 2024,</p> <p>19 when you were retained in this case, don't you agree</p> <p>20 with me that you're making more money testifying as</p> <p>21 an expert than you are as a professor at U.C. Davis?</p> <p>22 MR. ROBINSON: Same objection.</p> <p>23 Same instruction not to answer on the</p> <p>24 basis of the parties' expert stipulation.</p> <p>25 BY MS. KLEIN:</p>	<p style="text-align: right;">Page 52</p> <p>1 A. No.</p> <p>2 Q. Didn't think it was necessary?</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: For the assignments that were</p> <p>5 given to me by counsel, it was not necessary for me</p> <p>6 to review source code.</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. Did you ask to view Google's advertising</p> <p>9 technology systems? Did you ask for access to the</p> <p>10 systems themselves?</p> <p>11 A. Can you clarify "view" or "access," like</p> <p>12 what kind of access or viewing are you referring to?</p> <p>13 Q. Did you try to buy an ad as part of your</p> <p>14 work or simulate buying an ad?</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 THE WITNESS: As you probably -- as you may</p> <p>17 probably know from my CV, my research is at the</p> <p>18 intersection of online advertising and privacy. As</p> <p>19 part of my scholarship, I'm aware of public-facing</p> <p>20 tools that Google provides for advertising.</p> <p>21 So I am familiar with the tools that</p> <p>22 Google provides and anyone can sign up as a</p> <p>23 publisher or as an advertiser.</p> <p>24 BY MS. KLEIN:</p> <p>25 Q. Right. And my question to you, sir, was,</p>
<p style="text-align: right;">Page 51</p> <p>1 Q. Are you refusing to answer my question,</p> <p>2 sir?</p> <p>3 A. At the instruction of counsel, I'm not</p> <p>4 going to answer your question.</p> <p>5 Q. I'd like to turn back to your report,</p> <p>6 please. It's Exhibit Shafiq 3.</p> <p>7 The -- paragraph 5 says the list of</p> <p>8 documents and materials you considered and relied on</p> <p>9 are cited in line throughout this rebuttal report</p> <p>10 and the lists are also provided in appendices A and</p> <p>11 B.</p> <p>12 Do you see that?</p> <p>13 A. Yes.</p> <p>14 Q. Appendices A and B are the appendices that</p> <p>15 Keystone strategy put together for you?</p> <p>16 A. Keystone team helped me in compiling</p> <p>17 appendices A and B.</p> <p>18 Q. And you reviewed everything -- well, is</p> <p>19 there anything that you wanted to review that was</p> <p>20 not available to you?</p> <p>21 MR. ROBINSON: Objection; form.</p> <p>22 THE WITNESS: No.</p> <p>23 BY MS. KLEIN:</p> <p>24 Q. Did you ask to look at source code in this</p> <p>25 action, sir?</p>	<p style="text-align: right;">Page 53</p> <p>1 as part of your work generating and issuing the</p> <p>2 Shafiq report, Exhibit 3, did you actually sign up</p> <p>3 and try to buy or sell an ad as a publisher or an</p> <p>4 advertiser in this case?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: For the purposes of the</p> <p>7 assignments that I address in this report, I did not</p> <p>8 buy an ad on Google.</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. Or sign up as a publisher and try to sell</p> <p>11 an ad?</p> <p>12 MR. ROBINSON: Objection; form.</p> <p>13 THE WITNESS: For the purposes of the</p> <p>14 assignment that I address in this report, I did not</p> <p>15 sign up as a publisher to sell ads.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. And for the purposes of this report, you</p> <p>18 did not request access to the auction system?</p> <p>19 MR. ROBINSON: Objection; form.</p> <p>20 THE WITNESS: Can you please clarify what you</p> <p>21 mean by "auction system"?</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. Well, there's a technology at issue in</p> <p>24 this case related to an online auction; correct?</p> <p>25 A. Broadly speaking, yes. But are you</p>

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<p>1 referring to a very specific auction system at</p> <p>2 Google?</p> <p>3 Q. I'm referencing to any of the products at</p> <p>4 issue in this case.</p> <p>5 Did you request access to any of the</p> <p>6 online advertising products at issue in this case as</p> <p>7 part of your work in generating your report,</p> <p>8 Exhibit 3?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: As part of my work in this case,</p> <p>11 that I describe in my report, I did not ask for</p> <p>12 access to Google's advertising systems. I will note</p> <p>13 that throughout my report, I describe documentation</p> <p>14 and research that other people have done, including</p> <p>15 myself, into various parts of the auction.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. As part of your work in generating the</p> <p>18 report, did you access any -- well, strike that.</p> <p>19 As part of your work in generating this</p> <p>20 report, did you review any of the ad tech</p> <p>21 algorithms?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: Can you clarify what you mean by</p> <p>24 "ad tech algorithms"?</p> <p>25 BY MS. KLEIN:</p>	<p>1 RTB algorithms or source code; correct? You relied</p> <p>2 on Dr. Hochstetler's work in that regard?</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: Similar to my answer to your</p> <p>5 previous question, in my report I am citing</p> <p>6 documents from discovery, public documents, as well</p> <p>7 as peer-reviewed research, to describe my opinions</p> <p>8 as it relates to the what you are calling algorithms</p> <p>9 that are used in real-time bidding.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. You didn't look at them yourself, you</p> <p>12 relied on other people's research --</p> <p>13 MR. ROBINSON: Objection --</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. -- and documents that describe them?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: I, for example, relied on</p> <p>18 Google's own documentation of real-time bidding that</p> <p>19 describes how real-time bidding works.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. Right. You didn't actually look at the</p> <p>22 underlying data that would support or refute that</p> <p>23 documentation?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: Can you clarify what you mean by</p>
Page 55	Page 57
<p>1 Q. Google's algorithms are at issue in this</p> <p>2 case; correct?</p> <p>3 A. Are you referring to a specific algorithm?</p> <p>4 Q. The ones used in the ad tech tools.</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. Any of them.</p> <p>8 Did you look at any of Google's</p> <p>9 algorithms?</p> <p>10 MR. ROBINSON: Same objection.</p> <p>11 THE WITNESS: Similar to my answer to the</p> <p>12 previous question, in my report I address various</p> <p>13 issues, using public documentation internal</p> <p>14 discovery that relates to the algorithms that are</p> <p>15 used by Google in its advertising systems.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. And you reference RTB, or real-time</p> <p>18 bidding, in your report; correct?</p> <p>19 A. That's one of the Google products that I</p> <p>20 address in my report.</p> <p>21 Q. And you recognize that RTB uses</p> <p>22 algorithms?</p> <p>23 A. It's like saying everyone breathes air.</p> <p>24 Any computing system uses an algorithm.</p> <p>25 Q. And you didn't specifically look at the</p>	<p>1 "underlying data"?</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. You relied on documents describing</p> <p>4 algorithms rather than looking at the algorithm</p> <p>5 itself?</p> <p>6 A. I don't know if you're again asking me</p> <p>7 narrowly about source code, but if your question is</p> <p>8 did I look at RTB source code, the answer to that</p> <p>9 question is I did not look at RTB source code</p> <p>10 because I did not have access to it.</p> <p>11 Q. Did you ask for it?</p> <p>12 A. No.</p> <p>13 Q. You're aware that Dr. Hochstetler is an</p> <p>14 expert in this case; correct?</p> <p>15 A. Yes.</p> <p>16 Q. And you're aware that Dr. Hochstetler</p> <p>17 looked at source code?</p> <p>18 A. It is my general understanding that</p> <p>19 Dr. Hochstetler looked at the source code.</p> <p>20 Q. Did you look at the source code for</p> <p>21 AdSense?</p> <p>22 A. No.</p> <p>23 Q. Did you look at the source code for AdMob?</p> <p>24 A. No.</p> <p>25 Q. Did you look at the source code for GAM,</p>

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<p style="text-align: right;">Page 58</p> <p>1 G-a-m, in connection with your work in this case?</p> <p>2 (Witness reviews document.)</p> <p>3 A. I'm looking at my report to make sure that</p> <p>4 I reliably answer your question because . . .</p> <p>5 I want to correct my answer to your</p> <p>6 previous question.</p> <p>7 Q. Okay.</p> <p>8 A. You asked me about Google AdMob. In one</p> <p>9 section of my report, I describe a peer-reviewed</p> <p>10 research that looked into AdMob code, so I describe</p> <p>11 that in my report.</p> <p>12 Q. You describe peer-reviewed research, but</p> <p>13 you, yourself, did not look at AdMob source code in</p> <p>14 connection with this engagement; correct?</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 THE WITNESS: I remember reading the paper, and</p> <p>17 that paper included an excerpt of source code</p> <p>18 related to AdMob, or AdMob code.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. Do you know when the AdMob code from that</p> <p>21 paper existed, meaning the time frame?</p> <p>22 A. That paper was published in the year 2021,</p> <p>23 so I assume the code sample that they provide in the</p> <p>24 paper is -- was collected either in year 2021 or</p> <p>25 earlier.</p>	<p style="text-align: right;">Page 60</p> <p>1 THE WITNESS: I cannot reliably answer your</p> <p>2 question because it may be.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. It may be correct, but it may be</p> <p>5 incorrect?</p> <p>6 A. Is there a question?</p> <p>7 Q. Yes.</p> <p>8 You said you don't know -- my question to</p> <p>9 you was whether the code reflected in the</p> <p>10 paper -- strike that.</p> <p>11 The question is, the code reflected in the</p> <p>12 paper you cited could be current and it could be out</p> <p>13 of date; right?</p> <p>14 MR. ROBINSON: Objection; form.</p> <p>15 THE WITNESS: I don't believe I used those</p> <p>16 words.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. What words would you use?</p> <p>19 A. I believe the words I used was it may be</p> <p>20 correct.</p> <p>21 Q. And it may be incorrect?</p> <p>22 A. I will have to look at the code.</p> <p>23 Q. Going to paragraph 8 of your report, you</p> <p>24 lead -- you lead a research lab at the University of</p> <p>25 California, Davis; correct?</p>
<p style="text-align: right;">Page 59</p> <p>1 Q. And you agree with me that source code is</p> <p>2 changed and updated all the time?</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: It depends.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Do you agree with me that the AdMob code</p> <p>7 is likely different today than it was in 2020 or</p> <p>8 2021?</p> <p>9 A. I cannot reliably answer your question</p> <p>10 without conducting an inquiry into that matter.</p> <p>11 Q. You have to look at the code to know if</p> <p>12 it's the same today as it was as is reflected in the</p> <p>13 paper that you cited; correct?</p> <p>14 A. You've asked me a precise question and to</p> <p>15 answer that precise question about specific snippet</p> <p>16 of code, I will need to look at the code to be able</p> <p>17 to answer your question.</p> <p>18 Q. And you do not know -- you didn't look at</p> <p>19 the current source code for AdMob with respect to</p> <p>20 your report?</p> <p>21 A. That's correct.</p> <p>22 Q. So you don't know if the code reflected in</p> <p>23 the paper that you cited in your report is correct</p> <p>24 or not as of today?</p> <p>25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 61</p> <p>1 A. Yes.</p> <p>2 Q. And you describe your research lab in</p> <p>3 paragraph 8 of your report as being "focused on</p> <p>4 online privacy, security, and safety."</p> <p>5 Do you see that?</p> <p>6 A. Yes.</p> <p>7 Q. And you describe your lab's research aims</p> <p>8 as to "uncover personal data collection, sharing,</p> <p>9 and usage in the online advertising ecosystem."</p> <p>10 Do you see that?</p> <p>11 A. Yes.</p> <p>12 Q. So the purpose of your research is to</p> <p>13 discover how personal data is collected, shared, and</p> <p>14 used by Big Tech; correct?</p> <p>15 A. My lab's research aims to cover personal</p> <p>16 data collection, sharing, and usage in the online</p> <p>17 advertising ecosystem.</p> <p>18 Q. Is it a conflict of interest -- strike</p> <p>19 that.</p> <p>20 Would it be a conflict of interest for you</p> <p>21 to be retained by Google in a matter?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: Can you clarify what you mean by</p> <p>24 "conflict of interest"?</p> <p>25 BY MS. KLEIN:</p>

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<p style="text-align: right;">Page 62</p> <p>1 Q. Sure.</p> <p>2 Given what your lab's research aim is, if</p> <p>3 Google wanted to hire you, would you take the</p> <p>4 engagement?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: It depends.</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. On what?</p> <p>9 A. On the engagement.</p> <p>10 Q. In paragraph 10, you state that your</p> <p>11 research lab is "building new device instrumentation</p> <p>12 systems and measurement methods to investigate</p> <p>13 personal data collection, sharing, and usage in the</p> <p>14 web, mobile, and Internet-of-Things ecosystems."</p> <p>15 Did I read that correctly?</p> <p>16 A. I believe so.</p> <p>17 Q. And so when you say on your CV that one of</p> <p>18 your research interests is on web privacy, it's</p> <p>19 about the technical aspects of that privacy;</p> <p>20 correct?</p> <p>21 A. Our research deals with technical aspects</p> <p>22 of privacy.</p> <p>23 Q. You basically do research on how privacy</p> <p>24 controls work in the software programs themselves;</p> <p>25 correct?</p>	<p style="text-align: right;">Page 64</p> <p>1 they may not be building a methodology.</p> <p>2 Q. In your report, which is Shafiq Exhibit 3,</p> <p>3 there is no methodology section; correct?</p> <p>4 A. Do you want me to look in the report?</p> <p>5 Q. I would like to know, is there a</p> <p>6 methodology section in your report?</p> <p>7 MR. ROBINSON: Counsel, after this line of</p> <p>8 questioning, can we take our first break?</p> <p>9 MS. KLEIN: Sure, sure.</p> <p>10 (Witness reviews document.)</p> <p>11 THE WITNESS: In my report, there is no</p> <p>12 specific section that is entitled methodology, but</p> <p>13 number of documents, including peer-reviewed</p> <p>14 research papers that I've cited, they have described</p> <p>15 the methodology that they've used in those</p> <p>16 citations.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. Your methodology in preparing your</p> <p>19 opinions in this case is reading documents and</p> <p>20 applying your interpretation of them; correct?</p> <p>21 MR. ROBINSON: Objection; form.</p> <p>22 THE WITNESS: My work in this case is to</p> <p>23 analyze documents that have been produced in</p> <p>24 discovery, documents that are publicly available,</p> <p>25 documents that are in other publicly available</p>
<p style="text-align: right;">Page 63</p> <p>1 MR. ROBINSON: Objection; form.</p> <p>2 THE WITNESS: That's one of the things that we</p> <p>3 study in our lab.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. What else do you study in your lab on</p> <p>6 privacy controls?</p> <p>7 A. We, for example, investigate how they</p> <p>8 look.</p> <p>9 Q. What else?</p> <p>10 A. We investigate whether and how they work.</p> <p>11 Q. And when you're -- when you come to an</p> <p>12 opinion about something, you submit a research paper</p> <p>13 for publication; correct? The end goal of your</p> <p>14 research lab is to submit publications for peer</p> <p>15 review; correct?</p> <p>16 A. One of the goals of our research labs is</p> <p>17 to publish papers in peer-reviewed conference and</p> <p>18 journals.</p> <p>19 Q. And when you do that, the papers that you</p> <p>20 submit include a methodology section; correct?</p> <p>21 A. It depends on the nature of the paper that</p> <p>22 we write.</p> <p>23 Q. If it's peer-reviewed, do you?</p> <p>24 A. There exist peer-reviewed research papers</p> <p>25 that do not include a methodology section, because</p>	<p style="text-align: right;">Page 65</p> <p>1 reports, as well as peer-reviewed research, and</p> <p>2 provide an expert opinion, where my expert opinion</p> <p>3 is grounded in those facts, including, for example,</p> <p>4 scientific research that I considered.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Did you use any of the instrumentation</p> <p>7 systems in your lab to measure personal data</p> <p>8 collection and sharing in connection with preparing</p> <p>9 your report?</p> <p>10 A. Can you please rephrase your question?</p> <p>11 Q. Sure.</p> <p>12 Your lab has device instruments and</p> <p>13 measurement capabilities that it's developed;</p> <p>14 correct?</p> <p>15 A. Yes.</p> <p>16 Q. When you were analyzing and coming up with</p> <p>17 your opinions in this report, did you use any of</p> <p>18 those device instruments or measurement</p> <p>19 capabilities?</p> <p>20 A. My work in the case has included</p> <p>21 conducting investigation of various Google</p> <p>22 advertising products and systems. And to understand</p> <p>23 and explore how they work, I have familiarized</p> <p>24 myself with how they work using web browser</p> <p>25 instrumentation systems.</p>

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<p style="text-align: right;">Page 66</p> <p>1 Q. My question to you, sir, was, when you 2 were analyzing and coming up with your opinions in 3 this report, did you use any of the device 4 instruments or measurement capabilities that you've 5 developed in your lab? Yes or no. 6 (Witness reviews document.) 7 A. I looked at Google's documentation of 8 various Google products and services. And as I was 9 trying to understand how those products and services 10 worked, I did a general exploration that I think 11 included doing an analysis of certain Google 12 advertising products and services using web browser 13 instrumentation tools, such as the ones developed in 14 our lab. 15 MS. KLEIN: Objection; nonresponsive and move 16 to strike. 17 BY MS. KLEIN: 18 Q. Sir, I'm asking you, did you use the -- 19 I'm not asking if you looked on a web browser. 20 I'm asking if you used the device 21 instruments or measurement capabilities that your 22 research lab has developed to measure any data in 23 coming up with your opinions in this report? 24 A. I think what is probably causing confusion 25 at your end is you're probably not realizing that</p>	<p style="text-align: right;">Page 68</p> <p>1 So this is my general practice as I read 2 research papers, so I remember doing that. I don't 3 exactly remember how many tests I did or what 4 exactly did I look at, but if I can go back to my 5 records, I probably have that information. 6 Q. What browser instrument did you use? 7 A. I used a Chrome web browser. It has an 8 instrumentation mode which is called developer 9 tools. 10 Q. Anything else? Any other device 11 instrumentation for measurement that you used? 12 A. Sitting here today, I cannot recall all 13 the instruments I may have used, but I think as I 14 was reading those papers, they were discussing how 15 certain data collection sharing happens in web, so 16 my guess is I used web browsers. I cannot recall if 17 I only used Chrome or if I used other browsers as 18 well. 19 Q. And your use of these browses is not 20 reflected anywhere in your report, Exhibit 3; 21 correct? 22 MR. ROBINSON: Objection; form. 23 THE WITNESS: Like I said, when -- it is 24 standard practice that I believe a lot of scientists 25 follow that when they read a research paper or</p>
<p style="text-align: right;">Page 67</p> <p>1 the instrument that we use in our lab to study 2 personal data collection, sharing, and usage is the 3 web browser. The browser is the instrument. 4 Q. Did you collect any data yourself in 5 developing your opinions in this report? 6 A. Like I told you, I conducted a preliminary 7 investigation when I was given assignments by 8 counsel at the start of the case. I considered 9 Google's documentation. I was reading research 10 papers, which were describing in more detail how 11 various Google products and systems work. 12 And just as part of, like, reading those 13 papers just to better understand how the systems 14 actually work, if I recall correctly from my memory, 15 I probably did look at -- I used a browser 16 instrument, as you're calling it, to study Google's 17 advertising products and systems. 18 Q. Where is that reflected in your materials 19 relied upon or considered in your report? 20 A. Those would be the papers that describe in 21 detail. It is a common practice that I do when I'm 22 reading research papers or documents that you want 23 to confirm that what some part of the paper is 24 showing, you can actually -- if you can quickly 25 reproduce that, you want to see that.</p>	<p style="text-align: right;">Page 69</p> <p>1 documentation, you look at it, you . . . 2 In our field, for example, unlike the 3 field of microbiology, where you're reading a paper 4 that is, let's say, discussing some specimen that is 5 very hard to access and you can only analyze it in a 6 lab, the one thing that I really like about my line 7 of research is you can fire up a web browser and you 8 can very quickly look at the thing that you are 9 trying to study. 10 So this is common practice that I follow 11 that when I read a research paper and the research 12 paper is describing something that I can quickly 13 confirm, I do that all the time. 14 And nothing that I saw in the analysis 15 that I did to confirm what those papers were 16 describing contradicted my understanding of Google's 17 products and services from other documents that I 18 considered and relied upon in this report. 19 BY MS. KLEIN: 20 Q. Last question before we take a break, 21 Professor Shafiq, the issue is I'm here to test and 22 understand what you reviewed and relied upon in 23 developing your opinions, and your alleged use of 24 these browsers is not reflected anywhere in 25 Shafiq -- in your report, which is Shafiq Exhibit 3;</p>

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<p style="text-align: right;">Page 70</p> <p>1 correct?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. You did not list that you used these</p> <p>5 browsers in your report; correct?</p> <p>6 MR. ROBINSON: Objection; form.</p> <p>7 THE WITNESS: I think you were asking me a</p> <p>8 general question.</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. No, sir.</p> <p>11 A. I was telling you --</p> <p>12 Q. My question to you was, was the use of</p> <p>13 browsers reflected anywhere in your report. And you</p> <p>14 did not write it in there; correct?</p> <p>15 MR. ROBINSON: Same objection.</p> <p>16 THE WITNESS: I was telling you about my</p> <p>17 process of reading and understanding documentation</p> <p>18 and research papers, and as part of that, because</p> <p>19 the nature of my work is such that you can very</p> <p>20 quickly confirm what a research paper describes.</p> <p>21 So I was simply describing that I did use</p> <p>22 browser instruments to verify what I was reading in</p> <p>23 documentation or research papers. I eventually</p> <p>24 relied upon -- I considered and relied upon those</p> <p>25 research papers and documents that are cited in my</p>	<p style="text-align: right;">Page 72</p> <p>1 research staff to help you with respect to expert</p> <p>2 testimony and reports in other cases?</p> <p>3 MR. ROBINSON: You may answer a simple yes or</p> <p>4 no to that, otherwise would implicate your signed</p> <p>5 protective orders and NDAs.</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. Only looking for a "yes" or "no."</p> <p>8 A. Yes.</p> <p>9 Q. Okay. And when do you decide when you</p> <p>10 need extra support?</p> <p>11 MR. ROBINSON: To the extent you can answer</p> <p>12 that question without revealing communications with</p> <p>13 attorneys or supporting staff, you may answer.</p> <p>14 THE WITNESS: Generally speaking, it depends on</p> <p>15 the nature of assignment, the nature of the work</p> <p>16 that needs to be done in that case.</p> <p>17 THE REPORTER: There's someone from the Lanier</p> <p>18 firm that's come into the zoom. Just announcing.</p> <p>19 (Whereupon, Mr. Wilkerson, Esq. joined the</p> <p>20 proceedings via zoom.)</p> <p>21 MS. KLEIN: Thank you.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. Before the break, we were talking about</p> <p>24 the systems that you build in your research lab.</p> <p>25 Do you recall that?</p>
<p style="text-align: right;">Page 71</p> <p>1 report.</p> <p>2 MS. KLEIN: We can take a break now.</p> <p>3 THE VIDEOGRAPHER: We're going off the record.</p> <p>4 Time is 11:21.</p> <p>5 (Recess taken.)</p> <p>6 THE VIDEOGRAPHER: We're back on the record.</p> <p>7 Time is 11:39.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Dr. Shafiq, I forget to ask, do you prefer</p> <p>10 Doctor or Professor?</p> <p>11 A. Either is fine. I am a doctor and a</p> <p>12 professor.</p> <p>13 Q. Understood. Dr. Shafiq, we're back on the</p> <p>14 record after a short break.</p> <p>15 Is there anything you want to change or</p> <p>16 clarify about your testimony?</p> <p>17 A. No.</p> <p>18 Q. Okay. I previously asked you about the</p> <p>19 work that Keystone was doing.</p> <p>20 I forgot to ask, are you compensated at</p> <p>21 all based upon the number of hours that they put in?</p> <p>22 For example, do you get a percentage of what</p> <p>23 Keystone is paid?</p> <p>24 A. No.</p> <p>25 Q. Okay. And have you used consultants or</p>	<p style="text-align: right;">Page 73</p> <p>1 A. Yes.</p> <p>2 Q. Okay. And the systems that you build in</p> <p>3 your research lab are built to track and measure</p> <p>4 personal data sharing and usage; correct?</p> <p>5 A. I just want to use my own words, which is</p> <p>6 that we build systems and measurement methods to</p> <p>7 investigate personal data collection, sharing and</p> <p>8 usage in the web --</p> <p>9 (Reporter seeks clarification.)</p> <p>10 A. -- data collection, sharing and usage in</p> <p>11 the web, mobile and Internet of Things ecosystems.</p> <p>12 Q. So you build device instrumentation</p> <p>13 systems and measurement methods that track it;</p> <p>14 correct?</p> <p>15 A. Can you repeat the last thing that you</p> <p>16 said? I am not getting it.</p> <p>17 Q. You build systems to track and measure</p> <p>18 personal data sharing and usage; correct?</p> <p>19 MR. ROBINSON: Objection; form.</p> <p>20 THE WITNESS: We study it. I don't like the</p> <p>21 word "track" because the word "track" has a very</p> <p>22 specific technical meaning in our line of research.</p> <p>23 BY MS. KLEIN:</p> <p>24 Q. Okay. And what does "track" mean in your</p> <p>25 line of research?</p>

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<p style="text-align: right;">Page 74</p> <p>1 A. The word "track" or "tracking" that is</p> <p>2 used in our line of research deals with the ability</p> <p>3 of a tracker to link information or data of a person</p> <p>4 on and across different websites, apps and products</p> <p>5 that they would use.</p> <p>6 Q. Is it your testimony that your lab does</p> <p>7 not build systems to track data?</p> <p>8 MR. ROBINSON: Objection; form.</p> <p>9 THE WITNESS: I just want to use a precise term</p> <p>10 because the word "track" has a specific meaning. I</p> <p>11 know there are some research papers who use the term</p> <p>12 "tracking," "the trackers." I don't like it because</p> <p>13 it conflates the technical meaning of the word</p> <p>14 "tracking" with a lay understanding of the word</p> <p>15 "track."</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. I understand that, sir. I'm just trying</p> <p>18 to understand what your research lab does.</p> <p>19 And I'm asking you, does your research lab</p> <p>20 build systems to track and measure personal data</p> <p>21 sharing and usage, yes or no?</p> <p>22 A. If you ignore that scientific meaning of</p> <p>23 the word "track" or "tracking," as I have explained</p> <p>24 it to you earlier, in a lay sense, yes.</p> <p>25 Q. Thank you.</p>	<p style="text-align: right;">Page 76</p> <p>1 THE WITNESS: I would --</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. You can answer.</p> <p>4 A. Can you please rephrase that question?</p> <p>5 Q. Yes.</p> <p>6 In developing your report, you did not</p> <p>7 employ the science and practice of Internet</p> <p>8 measurement; correct?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: In my report I cite a number of</p> <p>11 papers, peer-reviewed research papers, that employ</p> <p>12 what computer scientists would call Internet</p> <p>13 measurement techniques.</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. Right.</p> <p>16 But you did not employ those Internet</p> <p>17 measurement techniques on the Google products at</p> <p>18 issue in this case for purposes of your report;</p> <p>19 correct?</p> <p>20 A. I relied on research papers who applied</p> <p>21 those methods. I'm relying on those peer-reviewed</p> <p>22 research papers. I did not see the need, at least</p> <p>23 for the purposes of my assignment in the case, to</p> <p>24 rely on anything else.</p> <p>25 Q. So you agree with me that you did not</p>
<p style="text-align: right;">Page 75</p> <p>1 In 2023 you won best paper at the ACM</p> <p>2 Internet Measurement Conference for your research on</p> <p>3 designing a method to study tracking, profiling and</p> <p>4 ad targeting in the Amazon Alexa ecosystem; correct?</p> <p>5 A. Yes.</p> <p>6 Q. What is the ACM Internet Measurement</p> <p>7 Conference?</p> <p>8 A. ACM is the umbrella body for computing</p> <p>9 professionals. Just like I'm sure lawyers have</p> <p>10 professional organizations, computer scientists have</p> <p>11 a professional organization called ACM. This is the</p> <p>12 flagship professional organization of computer</p> <p>13 science professionals, and this professional</p> <p>14 organization organizes academic conferences.</p> <p>15 And this particular conference called ACM</p> <p>16 Internet Measurement Conference is a conference that</p> <p>17 is dedicated to advancing the science and practice</p> <p>18 of Internet measurement.</p> <p>19 Q. And the science and practice of Internet</p> <p>20 measurement is one of your expertises; correct?</p> <p>21 A. Yes.</p> <p>22 Q. But in developing your report, you did not</p> <p>23 employ the science and practice of Internet</p> <p>24 measurement; correct?</p> <p>25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 77</p> <p>1 employ the science and practice of Internet</p> <p>2 measurement on Google's products yourself in</p> <p>3 developing your report; correct?</p> <p>4 MR. ROBINSON: Objection; form.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Yes or no?</p> <p>7 A. My answer is the same as before, I'm</p> <p>8 relying on other research papers who are using</p> <p>9 Internet measurement methods.</p> <p>10 Q. Sir, we're going to be here all day if you</p> <p>11 can't answer my questions.</p> <p>12 My question to you is, did you employ,</p> <p>13 yourself, the science and practice of Internet</p> <p>14 measurement on Google's products in developing your</p> <p>15 report?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: Like we discussed earlier, when I</p> <p>18 was reading some of those papers, I could quickly</p> <p>19 check using various instruments to confirm whether</p> <p>20 or not what the papers were reporting was correct.</p> <p>21 And nothing that I saw in my analysis using Internet</p> <p>22 measurement methods and systems contradicted what</p> <p>23 those papers were describing. And hence I'm relying</p> <p>24 on those peer-reviewed research papers that I'm</p> <p>25 citing in my report.</p>

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<p style="text-align: right;">Page 78</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. What data did you collect?</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: Can I point you to specific parts</p> <p>5 of my report? Because I am relying on research</p> <p>6 papers --</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. Sir, I'm asking you what data you</p> <p>9 collected, not what the research papers collected.</p> <p>10 I want to know what data you collected.</p> <p>11 The answer is none, isn't it? You</p> <p>12 collected no data in creating your opinions in this</p> <p>13 report; right?</p> <p>14 MR. ROBINSON: Objection; form.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. You did not collect any data; correct?</p> <p>17 MR. ROBINSON: Same objection.</p> <p>18 THE WITNESS: Can you please rephrase that</p> <p>19 question? You have asked me a number of questions</p> <p>20 back to back.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Of course.</p> <p>23 A. I've lost context.</p> <p>24 Q. You agree with me that you personally did</p> <p>25 not collect any data to measure in connection with</p>	<p style="text-align: right;">Page 80</p> <p>1 MR. ROBINSON: Objection; form.</p> <p>2 THE WITNESS: Other than that analysis that I</p> <p>3 described earlier, I did not measure my own data.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. If you did not collect your own data, how</p> <p>6 can you say you measured your own data? You're</p> <p>7 saying other than the analysis I described earlier,</p> <p>8 I did not measure my own data. But you also said</p> <p>9 you didn't collect your own data.</p> <p>10 Isn't it true you did not measure any data</p> <p>11 yourself?</p> <p>12 MR. ROBINSON: Objection; form.</p> <p>13 THE WITNESS: I would not agree with that.</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. Why not?</p> <p>16 A. Like I said earlier, I was reviewing</p> <p>17 documentation and research papers, and a lot of</p> <p>18 those papers are describing scientific analysis of</p> <p>19 large-scale data that they have collected about</p> <p>20 various online advertising products and services,</p> <p>21 including Google's products and services.</p> <p>22 As I was reading those papers -- and,</p> <p>23 again, I read those papers as part of my regular job</p> <p>24 as a researcher. I also confirmed some of the</p> <p>25 analysis that was presented in the papers by testing</p>
<p style="text-align: right;">Page 79</p> <p>1 this report?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: Subject to the thing that I</p> <p>4 explained earlier, where I confirmed peer-reviewed</p> <p>5 research that I cited in parts of my report, other</p> <p>6 than that, yes, I did not collect data that I relied</p> <p>7 upon in the report.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. And you did not measure any data that you</p> <p>10 relied upon in your report; correct?</p> <p>11 MR. ROBINSON: Objection; form.</p> <p>12 THE WITNESS: Like I said, I'm relying on</p> <p>13 peer-reviewed research, which has conducted</p> <p>14 large-scale measurements.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. And that means you, yourself, did not</p> <p>17 measure any data in creating your report; correct?</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 THE WITNESS: Other than the earlier answer</p> <p>20 that I gave you where I confirmed some of the</p> <p>21 measurements that were reported in those papers, if</p> <p>22 you put that aside, other than that, I did not</p> <p>23 collect my own data.</p> <p>24 BY MS. KLEIN:</p> <p>25 Q. And you did not measure your own data?</p>	<p style="text-align: right;">Page 81</p> <p>1 some of the data that was presented in that -- in</p> <p>2 those research papers.</p> <p>3 But nothing that I saw in my analysis,</p> <p>4 measurement or testing contradicted what was</p> <p>5 presented in those papers.</p> <p>6 Q. Okay. Where in your report does it say</p> <p>7 that you conducted your own analysis, measurement or</p> <p>8 testing? Please point me to the paragraph.</p> <p>9 A. I think I was asking you a question in the</p> <p>10 context of did you -- I think the first question</p> <p>11 was, did you use browser instruments to analyze any</p> <p>12 Google advertising products.</p> <p>13 And I was telling you as part of my report</p> <p>14 I'm citing a number of research papers who are</p> <p>15 studying at a large scale --</p> <p>16 MS. KLEIN: Objection, non --</p> <p>17 THE WITNESS: -- Google's --</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. Go ahead. Sorry.</p> <p>20 THE WITNESS: Court reporter, can you please</p> <p>21 repeat where I was?</p> <p>22 MS. KLEIN: I was going to object as</p> <p>23 nonresponsive and move to strike and ask my question</p> <p>24 again.</p> <p>25 BY MS. KLEIN:</p>

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<p>1 Q. Where in your report does it say you 2 conducted any analysis on measurement or testing? 3 Please cite me to the paragraph. 4 (Witness reviews document.) 5 A. So other than those research papers and 6 the discussion we had surrounding them, I did not 7 collect my own data. 8 Q. My question to you, sir -- 9 MS. KLEIN: Objection; nonresponsive and move 10 to strike -- 11 BY MS. KLEIN: 12 Q. -- is where in your report does it say you 13 conducted any analysis on measurement or testing? 14 It's true your report does not say that you 15 conducted any analysis on measurement or testing; is 16 that right? 17 MR. ROBINSON: Objection; form. 18 THE WITNESS: I'm relying on peer-reviewed 19 research which conducts large-scale measurements, 20 and I'm relying on the conclusions of those 21 peer-reviewed research papers. 22 BY MS. KLEIN: 23 Q. That's right. 24 A. And, like I said, when I did read those 25 papers, I did also test and confirm some of the</p>	<p>1 relying on are not based on any of the highly 2 confidential information that was produced in this 3 case; correct? 4 A. In that part of paper -- in that part of 5 my report, I'm discussing Google's data collection 6 on the web. And to undertake that investigation, 7 you do not need to rely on any confidential 8 information. 9 Q. That wasn't my question, sir. And you 10 really need to answer -- listen to my questions 11 because you keep answering with what you want to 12 answer, and it's going to make this go longer. 13 And if you can't answer my questions, I'm 14 going to ask for more time if I have to go over 15 seven hours. 16 MS. KLEIN: So I'm going to object as 17 nonresponsive and move to strike and ask you to 18 listen to my question carefully, sir. 19 BY MS. KLEIN: 20 Q. My question to you was that the papers 21 that you are relying on in your report are not based 22 on any of the highly confidential information that 23 was produced in this case; correct? 24 A. Yes, those papers rely on publicly 25 available data that those papers have made available</p>
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<p>1 results that were presented in those papers. 2 Q. But you did not say that in your report; 3 correct? Yes or no? 4 A. I did not feel the need to because nothing 5 I saw in my own analysis contradicted what was 6 presented in those peer-reviewed research papers. 7 Q. And therefore you're not relying on your 8 own analysis, you're only relying on the research 9 papers; correct? 10 MR. ROBINSON: Objection; form. 11 THE WITNESS: I'm relying on scientific 12 research papers. 13 BY MS. KLEIN: 14 Q. Those papers that you're relying on are 15 not based on any data or documents that were 16 produced in this case, though; right? 17 A. Those research papers -- and we can talk 18 about them in more detail -- they rely on data that 19 is publicly available. Your experts can access it, 20 they can analyze it and reproduce the findings of 21 those papers. 22 Q. Are you sure about that? 23 A. I actually teach one of those papers in my 24 graduate course, so I'm very sure about that. 25 Q. And therefore those papers that you're</p>	<p>1 that anyone can review and reproduce the results. 2 MS. KLEIN: Objection; nonresponsive and move 3 to strike. 4 BY MS. KLEIN: 5 Q. And therefore those papers do not rely on 6 any highly confidential information that was 7 produced in this case; correct? 8 MR. ROBINSON: Objection; form. 9 THE WITNESS: I think it is reasonable to 10 assume that those research papers -- because those 11 researchers are not privy to confidential 12 information in this case, that they are probably not 13 relying on highly confidential information in this 14 case. 15 BY MS. KLEIN: 16 Q. Nor were they based on any Google source 17 code; right? 18 MR. ROBINSON: Objection; form. 19 BY MS. KLEIN: 20 Q. That's made available in this case. 21 A. Google has a lot of source code. Can you 22 please more precisely ask your question? 23 Q. I'll come back to it. 24 MS. KLEIN: Court reporter, Rae, can you please 25 provide him with Exhibit 5?</p>

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<p style="text-align: right;">Page 86</p> <p>1 (Deposition Exhibit 5 was marked.)</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Professor Shafiq, I've put in front of you</p> <p>4 Exhibit 5.</p> <p>5 Is this a true and correct copy of the</p> <p>6 paper that you wrote for the ACM conference called</p> <p>7 "Tracking, Profiling, and Ad Targeting in the Alexa</p> <p>8 Eco Smart Speaker System" -- I'm sorry, "Echo Smart</p> <p>9 Speaker System"?</p> <p>10 A. I believe so.</p> <p>11 Q. And this is what you scientists would call</p> <p>12 a peer-reviewed paper?</p> <p>13 A. This paper has been published in ACM</p> <p>14 conference after peer review.</p> <p>15 Q. And if you turn with me to page 3 of your</p> <p>16 paper, you discuss the auditing framework.</p> <p>17 Do you see that?</p> <p>18 A. Which section or . .</p> <p>19 Q. "Auditing Framework" on page 3.</p> <p>20 A. Yes.</p> <p>21 Q. And in this section you describe the</p> <p>22 methodology that you use to measure data collection,</p> <p>23 usage and sharing of interaction data by Amazon and</p> <p>24 third-party skills.</p> <p>25 Do you see that?</p>	<p style="text-align: right;">Page 88</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. I think you should keep it in front of you</p> <p>3 for just a minute, but let's look at Exhibit 6 for</p> <p>4 now. The court reporter has put in front of you</p> <p>5 what's been marked as Exhibit 6.</p> <p>6 Is this a true and correct copy of a paper</p> <p>7 you co-authored entitled "CanaryTrap: Detecting</p> <p>8 Data Misuse by Third-Party Apps on Online Social</p> <p>9 Networks" that was published by the Proceedings on</p> <p>10 Privacy Enhancing Techniques in 2020?</p> <p>11 (Witness reviews document.)</p> <p>12 A. It looks --</p> <p>13 Q. What is the Proceedings on Privacy</p> <p>14 Enhancing Technologies?</p> <p>15 A. Just like Internet Measurement Conference,</p> <p>16 this is another conference for computer privacy</p> <p>17 research.</p> <p>18 Q. It's very well-known?</p> <p>19 A. Yes. This is one of the flagship privacy</p> <p>20 focused conference and publications in our field.</p> <p>21 Q. So the ACM and the Proceedings on Privacy</p> <p>22 Technologies Enhancing Technologies are both</p> <p>23 flagship conferences?</p> <p>24 A. Well, the other conference -- there are</p> <p>25 two conferences that are both considered -- they're</p>
<p style="text-align: right;">Page 87</p> <p>1 A. I can see those sentences.</p> <p>2 Q. I was going to ask you, in layperson</p> <p>3 terms, what were you researching with respect to</p> <p>4 Exhibit 5?</p> <p>5 MR. ROBINSON: Professor Shafiq, I'll instruct</p> <p>6 you that if you need to review part of this to</p> <p>7 understand the context of this, feel free to do so.</p> <p>8 MS. KLEIN: I will tell you, Professor Shafiq,</p> <p>9 that this is the paper you authored that you tout as</p> <p>10 winning best paper. So I would assume you</p> <p>11 understood in layperson's terms what you were</p> <p>12 researching without having to spend ten minutes</p> <p>13 reading it. But if you need to, go ahead.</p> <p>14 THE WITNESS: Can you please rephrase your</p> <p>15 question?</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. Yes.</p> <p>18 In layperson terms, what were you</p> <p>19 researching with respect to Exhibit 5?</p> <p>20 A. At a high level, we were studying</p> <p>21 tracking, profiling and ad targeting in the Alexa</p> <p>22 Echo smart speaker ecosystem.</p> <p>23 Q. And . . .</p> <p>24 (Deposition Exhibit 6 was marked.)</p> <p>25 THE WITNESS: Can I put Exhibit 5 away?</p>	<p style="text-align: right;">Page 89</p> <p>1 competing for who -- which one is the flagship. But</p> <p>2 in privacy, this conference is the main flagship</p> <p>3 conference focused on privacy research.</p> <p>4 Q. And in layperson's terms, what were you</p> <p>5 trying to achieve with your research reflected in</p> <p>6 Shafiq Exhibit 6, the CanaryTrap article?</p> <p>7 A. At a high level -- actually, let me give</p> <p>8 you some context. So one of the research emphasis</p> <p>9 in our lab was that we wanted to study data misuse</p> <p>10 by third-party apps, more broadly speaking.</p> <p>11 And this is happening in the aftermath of</p> <p>12 Cambridge Analytica. So there were a lot of</p> <p>13 concerns whether or not third-party apps in social</p> <p>14 networks, the data they collect is potentially</p> <p>15 misused.</p> <p>16 And there was a lot of evidence of it.</p> <p>17 After some data breach happens, something comes to</p> <p>18 light, but there was a lack of scientific methods</p> <p>19 using which researchers could independently</p> <p>20 detect -- or audit is another term that we like to</p> <p>21 use -- such incidents.</p> <p>22 And in this particular paper, we developed</p> <p>23 a methodology that we called CanaryTrap, which</p> <p>24 allowed us to independently detect data misuse by</p> <p>25 third-party apps in social networks. And I believe</p>

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<p style="text-align: right;">Page 90</p> <p>1 the social network we studied in this paper was</p> <p>2 Facebook.</p> <p>3 Q. And the methodology you employed is</p> <p>4 described in paragraph 3.1 called "Design"?</p> <p>5 A. Because this is a kind of peer-reviewed</p> <p>6 research where we are building a new methodology,</p> <p>7 hence we have a section describing the new</p> <p>8 methodology that we have built.</p> <p>9 Q. So that's a "yes," the methodology you</p> <p>10 employed is described in paragraph 3.1 called</p> <p>11 "Design"; correct?</p> <p>12 A. It's described in greater detail in</p> <p>13 Section 3 of this paper.</p> <p>14 Q. That's a "yes," that's the methodology,</p> <p>15 Section 3 -- methodology section?</p> <p>16 A. Section 3 is describing the system -- the</p> <p>17 new system that we developed. The system is called</p> <p>18 CanaryTrap.</p> <p>19 And then there are various subsections in</p> <p>20 Section 3. In 3.1, because this methodology did not</p> <p>21 exist before we published this paper, we are</p> <p>22 describing the design. In Section 3.2, we are</p> <p>23 describing how did we go about implementing the</p> <p>24 methodology that we designed.</p> <p>25 And then in Section 3.3 we are describing</p>	<p style="text-align: right;">Page 92</p> <p>1 detecting data leakage in web browsers through</p> <p>2 cooks, contact forms, or e-mails."</p> <p>3 Do you see that?</p> <p>4 A. Yes.</p> <p>5 Q. And it says, "For example, Starov et al.</p> <p>6 [72] showed that more than 8% of websites leak</p> <p>7 users' PII to online trackers through contact</p> <p>8 forms."</p> <p>9 Do you see that?</p> <p>10 A. Yes.</p> <p>11 Q. And PII is personal identifying</p> <p>12 information?</p> <p>13 A. Yes.</p> <p>14 Q. Do you study website leakage?</p> <p>15 A. In our research, we study data collection</p> <p>16 or what is -- what can also be, broadly speaking,</p> <p>17 called data leakage on websites, including a number</p> <p>18 of papers that I've cited in my report.</p> <p>19 Q. Did you undertake any study regarding data</p> <p>20 leakage yourself with respect to the opinions in</p> <p>21 your report?</p> <p>22 A. Like I said, I am citing a number of</p> <p>23 research papers who conduct that study, including I</p> <p>24 looked at the references by one of the co-authors</p> <p>25 that are cited here. I also cite them in my report.</p>
<p style="text-align: right;">Page 91</p> <p>1 how did we go about actually deploying it on</p> <p>2 Facebook.</p> <p>3 Q. In Section 2.2 you talk about detecting</p> <p>4 data leakage.</p> <p>5 Do you see that?</p> <p>6 A. This is a section of the paper that deals</p> <p>7 with related work.</p> <p>8 (Reporter seeks clarification.)</p> <p>9 A. Yes. And one of the lines of research we</p> <p>10 are describing here focuses on detecting data</p> <p>11 leakage.</p> <p>12 Q. And data leakage you note, for -- about --</p> <p>13 the second point, it says, "Second, prior work has</p> <p>14 focused on detecting data leakage in web browsers</p> <p>15 through cookies, contact forms, or e-mails."</p> <p>16 Do you see that?</p> <p>17 A. I just want to refresh my memory on the</p> <p>18 citations here.</p> <p>19 (Witness reviews document.)</p> <p>20 A. Yes, can you please repeat the question?</p> <p>21 I've refreshed my memory about this part of the</p> <p>22 paper.</p> <p>23 Q. Yes.</p> <p>24 I just wanted to point you to the part</p> <p>25 where it says, "Second, prior work has focused on</p>	<p style="text-align: right;">Page 93</p> <p>1 Q. But you didn't undertake any independent</p> <p>2 study of data leakage; correct?</p> <p>3 A. I did not conduct my own study for the</p> <p>4 purposes of my report because I am relying on</p> <p>5 several peer-reviewed research papers that are doing</p> <p>6 that study large-scale and they -- and I'm relying</p> <p>7 on their conclusions.</p> <p>8 Q. What is data leakage in layman's terms?</p> <p>9 A. In layman terms, data leakage essentially</p> <p>10 refers to sharing of data.</p> <p>11 Q. What does that mean?</p> <p>12 A. If you recall when we are discussing the</p> <p>13 work that my lab does, at a high level it focuses on</p> <p>14 data collection, sharing, and usage. So I think you</p> <p>15 can think of leakage, broadly speaking, to fall into</p> <p>16 the bucket of sharing.</p> <p>17 Q. Unintentional sharing?</p> <p>18 (Reporter seeks clarification.)</p> <p>19 A. It depends on the specific context.</p> <p>20 (Deposition Exhibit 7 was marked.)</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Professor Shafiq, I have put in front of</p> <p>23 you what's been marked as Exhibit 7 which is, I will</p> <p>24 represent to you, the call for papers available on</p> <p>25 the Internet by the Proceedings on Privacy Enhancing</p>

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<p>1 Technology Symposium.</p> <p>2 Do you see that?</p> <p>3 A. Yes.</p> <p>4 Q. And every year, the Proceedings on Privacy</p> <p>5 Enhancing Technology Symposium puts out a call for</p> <p>6 papers in which it tells researchers like yourself</p> <p>7 what is required of a paper to be submitted; is that</p> <p>8 right? Let me scratch that.</p> <p>9 Do you know what a call for papers is?</p> <p>10 A. Yes.</p> <p>11 Q. What is a call for papers?</p> <p>12 A. The goal for call for papers is typically</p> <p>13 to define the scope of research papers that are</p> <p>14 being solicited at that conference or journal.</p> <p>15 Q. And so this is the call for papers that</p> <p>16 Proceedings on Privacy Enhancing Technologies has</p> <p>17 put out for this year; correct?</p> <p>18 A. I think I wrote this, so yes.</p> <p>19 Q. Oh, you wrote it. Very good.</p> <p>20 Are you the president of the Proceedings</p> <p>21 on Privacy Enhancing Technology Symposium?</p> <p>22 A. There is no designation that is called a</p> <p>23 president.</p> <p>24 Q. Got it.</p> <p>25 How is it that you came to be the person</p>	<p>1 And in this conference, we wanted to</p> <p>2 encourage publications of more applied privacy</p> <p>3 research, rather than more theoretical privacy</p> <p>4 research.</p> <p>5 (Reporter seeks clarification.)</p> <p>6 A. Hence we put in this paragraph to</p> <p>7 discourage authors who were writing more theoretical</p> <p>8 privacy research, to consider submitting their</p> <p>9 papers to other venues.</p> <p>10 Q. And the clarification of expectations</p> <p>11 reads, "This year we introduced a new requirement</p> <p>12 that submissions must contribute to real privacy</p> <p>13 applications that run in real systems. Consistent</p> <p>14 with this focus, we expect that submissions should</p> <p>15 not need to rely on proofs as a primary contribution</p> <p>16 and thus proofs would usually appear in the Appendix</p> <p>17 rather than in the main body."</p> <p>18 Did I read that correctly?</p> <p>19 A. Yes.</p> <p>20 Q. The clarification also requires that "a</p> <p>21 substantial portion of each submission would instead</p> <p>22 be focused on work that is more traditionally</p> <p>23 considered practical or applied work (e.g.,</p> <p>24 real-world use cases, real-world measurements,</p> <p>25 evaluations on real-world data, application</p>
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<p>1 who put out this call for papers, or drafted the</p> <p>2 call for papers?</p> <p>3 A. I'm the editor in chief.</p> <p>4 Q. Of the -- of the publication?</p> <p>5 A. Yes.</p> <p>6 Q. I would like to direct your attention to</p> <p>7 page 3 of 10 where it talks about clarification of</p> <p>8 expectations.</p> <p>9 Do you see that?</p> <p>10 A. Yes.</p> <p>11 Q. Who decided on what the clarification of</p> <p>12 expectations would be this year? Was that you, as</p> <p>13 the editor in chief?</p> <p>14 A. So there is more context to it because</p> <p>15 this is -- there is a lot of background that went</p> <p>16 into writing the paragraph the way it is written.</p> <p>17 Do you want me to give you some overview?</p> <p>18 Q. Sure.</p> <p>19 A. So I was also the editor in chief of this</p> <p>20 proceeding the previous year. And the editors who</p> <p>21 were before me -- and this is a common issue that we</p> <p>22 were dealing with in our research -- in our</p> <p>23 conferences, we were getting a number of submissions</p> <p>24 that were very theoretical in nature, to put it in</p> <p>25 lay terms.</p>	<p>1 development, integration with a real-world</p> <p>2 application, system design and evaluation, etc.)"</p> <p>3 Did I read that correctly?</p> <p>4 A. Yes.</p> <p>5 Q. And then the clarification goes on to say,</p> <p>6 "This focus is necessary due to an increasing number</p> <p>7 of submissions that make primary contributions that</p> <p>8 are highly theoretical in nature (e.g., to</p> <p>9 theoretical cryptography and primitives or related</p> <p>10 areas) for which PoPETs is not well-equipped to</p> <p>11 review and provide high quality feedback."</p> <p>12 Do you see that?</p> <p>13 A. Yes.</p> <p>14 Q. And so the reason that you're asking for</p> <p>15 more practical or applied work is because it's hard</p> <p>16 for PoPETs to actually peer review the information;</p> <p>17 right?</p> <p>18 A. So given the context that I gave you</p> <p>19 previously, we have a number of program committee</p> <p>20 members on our board who do theoretical research,</p> <p>21 but we don't have enough of them.</p> <p>22 Hence we are trying to -- so we -- there</p> <p>23 was a long debate about this at the last board</p> <p>24 meeting. We -- one option we considered was to</p> <p>25 increase the number of reviewers who conduct more</p>

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<p style="text-align: right;">Page 98</p> <p>1 theoretical research so we can beef up and</p> <p>2 essentially provide reviews to all the papers who</p> <p>3 are theoretical in nature that get submitted to the</p> <p>4 conference.</p> <p>5 The other option we considered was that we</p> <p>6 tweak the scope of the conference to be more applied</p> <p>7 to essentially signal to authors that, hey, if</p> <p>8 you're doing very theoretical research, don't submit</p> <p>9 to this conference; submit to other venues which --</p> <p>10 other venues that have a greater number of program</p> <p>11 committee members who do theoretical privacy</p> <p>12 research.</p> <p>13 Q. And therefore, you're seeking papers that</p> <p>14 deal with real world measurements and evaluation of</p> <p>15 real world data; right?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: In that part of this paragraph,</p> <p>18 we are giving a number of examples of the kind of</p> <p>19 things we want to encourage, and those are two of</p> <p>20 the several things that we provide examples of in</p> <p>21 this paragraph.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. Because those are capable of peer review</p> <p>24 in ways that theoretical research is not?</p> <p>25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 100</p> <p>1 technology symposium. We have, in the past,</p> <p>2 peer-reviewed and published a number of theoretical</p> <p>3 privacy papers as well. They are capable of being</p> <p>4 peer-reviewed.</p> <p>5 Q. It's just that the flagship organization</p> <p>6 is not well equipped to review and provide high</p> <p>7 quality feedback to theoretical papers?</p> <p>8 MR. ROBINSON: Objection; form.</p> <p>9 THE WITNESS: I think I gave you the context</p> <p>10 that we were receiving more submissions than we had</p> <p>11 number of program committee members who had that</p> <p>12 expertise.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. Well, you didn't write that in Exhibit 7,</p> <p>15 which you said you authored; right?</p> <p>16 A. Yes. I wrote this paragraph. All of</p> <p>17 those discussions are part of the board meeting that</p> <p>18 happened earlier this year.</p> <p>19 Can I put this aside?</p> <p>20 Q. Yes.</p> <p>21 (Deposition Exhibit 8 was marked.)</p> <p>22 (Discussion off the record.)</p> <p>23 BY MS. KLEIN:</p> <p>24 Q. Professor Shafiq, I've put in front of you</p> <p>25 what's been marked as Exhibit Shafiq 8.</p>
<p style="text-align: right;">Page 99</p> <p>1 THE WITNESS: I would not put it that way.</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Those are the kinds of cases -- those are</p> <p>4 the kinds of articles that are -- lend themselves</p> <p>5 more to peer review?</p> <p>6 MR. ROBINSON: Objection; form.</p> <p>7 THE WITNESS: I would not agree with that.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Do you agree with that -- do you agree</p> <p>10 with me that articles that contain real world</p> <p>11 measurements and evaluate real world data are</p> <p>12 susceptible to peer review?</p> <p>13 MR. ROBINSON: Objection; form.</p> <p>14 THE WITNESS: Susceptible, can you clarify what</p> <p>15 you mean by that? That is throwing me off.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. Capable of peer review?</p> <p>18 MR. ROBINSON: Same objection.</p> <p>19 THE WITNESS: All research is capable of being</p> <p>20 peer-reviewed.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. It's your opinion that there is no</p> <p>23 research that's not capable of peer review?</p> <p>24 A. Let's go back to the context of this</p> <p>25 paragraph. Proceeding of privacy enhancing</p>	<p style="text-align: right;">Page 101</p> <p>1 Is this the Call For Papers from ACM IMC</p> <p>2 2023?</p> <p>3 A. Yes, it seems so.</p> <p>4 Q. And this is the call for papers that</p> <p>5 resulted in Exhibit No. 5; correct?</p> <p>6 A. What was Exhibit 5?</p> <p>7 Q. The tracking, profiling, and ad targeting.</p> <p>8 A. Yeah, our research paper was eventually</p> <p>9 accepted at this conference.</p> <p>10 Q. And you see that the first paragraph of</p> <p>11 Exhibit 8, the call for papers for ACM, says "The</p> <p>12 Internet Measurement Conference is a highly</p> <p>13 selective venue for the presentation of</p> <p>14 measurement-based research data -- research in data</p> <p>15 communications."</p> <p>16 Do you see that?</p> <p>17 A. Yes.</p> <p>18 Q. It says, "As we are in the era of</p> <p>19 data-driven research, IMC 2023 will focus on</p> <p>20 improving the standard in the collection, usage and</p> <p>21 sharing of network measurements for the research</p> <p>22 community."</p> <p>23 Do you see that?</p> <p>24 A. Yes.</p> <p>25 Q. Given that you did not collect or measure</p>



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<p style="text-align: right;">Page 102</p> <p>1 any data with respect to your report, it would not 2 qualify as a publishable paper for ACM, would it, 3 under this call for papers? 4 MR. ROBINSON: Objection; form. 5 THE WITNESS: Is your question that whether or 6 not my report can be submitted for peer review at 7 this conference? Because that's not what typically 8 happens. People don't submit expert reports. 9 BY MS. KLEIN: 10 Q. No, I understand that. I'm just saying 11 based on the methodology you used, it wouldn't even 12 qualify to be submitted for peer review at ACM; 13 correct? 14 A. I would not agree with that. 15 Q. No? 16 A. I would not agree with your statement. 17 Q. Why not? 18 A. The papers that I'm citing, the evidence 19 that I'm citing, in fact, many of those papers are 20 published in peer-reviewed venues that are 21 considered highly reputable, include co-authors of 22 papers that are published regularly in these and 23 other conferences. 24 So I'm not relying on some made-up data. 25 The data is coming from the kind of conferences that</p>	<p style="text-align: right;">Page 104</p> <p>1 public -- a publicly available version of the 2 document and then we can talk about it. Okay? 3 (Discussion off the record.) 4 (Deposition Exhibit 9 was marked.) 5 (Witness reviews document.) 6 MR. ROBINSON: Now, Professor Shafiq, I'll just 7 go ahead and say that you may answer questions about 8 this previous report that counsel for Google is 9 representing to be a public document. 10 To the extent that any facts or opinions 11 in this, you relied on in creation of your opinions 12 in this case, and otherwise, if they do not relate 13 to something that you relied on in your opinions in 14 this matter, I'm going to instruct you not to 15 answer. 16 MS. KLEIN: I'm sorry, if you're going to do 17 that, I'm going to move to compel, because I'm 18 allowed to test the different methodologies that he 19 has and the different methodologies that he uses. 20 And if you're going to say I can't use a 21 publicly available document to test his 22 methodologies, we're going to have a big fat 23 problem. 24 MR. ROBINSON: Well, we can see -- we can see 25 the direction that your questions go, but I'm</p>
<p style="text-align: right;">Page 103</p> <p>1 we are discussing, and they have been peer-reviewed. 2 Q. Is ProPublica considered a reliable source 3 in research communities? 4 MR. ROBINSON: Objection; form. 5 THE WITNESS: ProPublica is commonly cited in 6 my experience by research papers who are pointing 7 to, for example, a case study of some journalism 8 that is relevant to topic of research. 9 BY MS. KLEIN: 10 Q. Is ProPublica reliable -- considered a 11 reliable source for source code and other reporting 12 on changes to technical systems? 13 A. It depends what we are trying to -- what 14 is the context in which someone is relying on it. 15 Q. In TikTok -- in the TikTok case we talked 16 about earlier, you were asked to opine how TikTok 17 collected and used various data; correct? 18 MR. ROBINSON: Instruct you not to answer on 19 the basis of the protective orders that you have 20 signed in that case. 21 THE WITNESS: At the instruction of counsel and 22 the confidentiality agreement that I have signed in 23 that case, I'm not going to answer the question. 24 BY MS. KLEIN: 25 Q. Okay. Well, I'm going to give you a</p>	<p style="text-align: right;">Page 105</p> <p>1 relying on the expert stipulation and Rule 26 here 2 regarding to what you can and can't discover 3 regarding expert disclosures and qualifications. 4 MS. KLEIN: I completely disagree with that and 5 we may have to get the Special Master on the phone. 6 MR. ROBINSON: That's fine, that's fine. 7 BY MS. KLEIN: 8 Q. Professor Shafiq, we've put in front of 9 you what's been marked as Shafiq Exhibit 9. 10 Is this a true and correct copy of the 11 publicly available version of a declaration you 12 submitted in support of Plaintiff's Motion for Class 13 Certification in the Bernadine Griffith versus 14 TikTok and Bytedance case? 15 A. Do you want me to look at the report? 16 Q. I want to know if it's a true and correct 17 copy of a redacted version of the report you 18 submitted in that case. 19 (Witness reviews document.) 20 A. The document that you have put in front of 21 me is -- there's a lot of redactions. I don't know 22 if this is the true and correct copy. 23 Q. You don't know if this is what you 24 submitted in the TikTok case? 25 A. I submitted a report in the TikTok case.</p>

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<p style="text-align: right;">Page 106</p> <p>1 Q. And you can't tell me this is that report?</p> <p>2 A. Because this is not what I wrote. This is</p> <p>3 heavily redacted, so I don't know if this has been</p> <p>4 modified in any way.</p> <p>5 Q. Okay. I'm sure they'll be happy to know</p> <p>6 that in that case.</p> <p>7 Professor Shafiq, in the TikTok case, you</p> <p>8 were asked to opine with respect to how TikTok</p> <p>9 collected and used various data; right?</p> <p>10 MR. ROBINSON: If you relied on any facts or</p> <p>11 assumptions in this report to make up the basis of</p> <p>12 your opinions in this case, you may answer.</p> <p>13 Otherwise, I'll instruct you not to answer on the</p> <p>14 basis of this case's expert stipulation.</p> <p>15 MS. KLEIN: What paragraph of this case's</p> <p>16 expert stipulation?</p> <p>17 MR. ROBINSON: Yeah, I do not see any category</p> <p>18 under Section 4, expert materials to be disclosed,</p> <p>19 that would apply to the details of an expert's prior</p> <p>20 expert opinions in an unrelated case in an</p> <p>21 assignment that has nothing to do with this case.</p> <p>22 MS. KLEIN: It's called impeachment, my friend.</p> <p>23 MR. ROBINSON: I'll stand by my instruction.</p> <p>24 MS. KLEIN: Court reporter, if you would mark</p> <p>25 that in the transcript.</p>	<p style="text-align: right;">Page 108</p> <p>1 facts that you relied on in the creation of your</p> <p>2 opinions in this matter.</p> <p>3 THE WITNESS: At the instruction of counsel,</p> <p>4 I'm not going to answer your question.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. In the TikTok case, did you collect data?</p> <p>7 MR. ROBINSON: Same instruction, same basis.</p> <p>8 THE WITNESS: At the instruction of counsel,</p> <p>9 I'm not going to answer your question.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. In the TikTok case, did you develop a</p> <p>12 methodology to test for variability in collection of</p> <p>13 data browsers from different websites?</p> <p>14 MR. ROBINSON: Same instruction on the same</p> <p>15 basis.</p> <p>16 THE WITNESS: At the instruction of counsel,</p> <p>17 I'm not going to answer your question.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. Can you read the first sentence of</p> <p>20 paragraph 11 of your report, please?</p> <p>21 MR. ROBINSON: You can read it.</p> <p>22 THE WITNESS: I just want to caution that I</p> <p>23 don't know if this is the report that I submitted</p> <p>24 because this is not -- this seems to have these</p> <p>25 redactions.</p>
<p style="text-align: right;">Page 107</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Professor Shafiq, in the TikTok case, were</p> <p>3 you asked to opine with respect to how TikTok</p> <p>4 collected and used various data?</p> <p>5 MR. ROBINSON: Same instruction not to answer</p> <p>6 on the same basis and the party's expert</p> <p>7 stipulation.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Are you refusing to answer my question?</p> <p>10 A. Can you please rephrase your question?</p> <p>11 Q. Yes, sir.</p> <p>12 Professor Shafiq, in the TikTok case, were</p> <p>13 you asked to opine on how TikTok collected and used</p> <p>14 various data?</p> <p>15 MR. ROBINSON: Same instruction not to answer</p> <p>16 on the same basis.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. Are you refusing to answer my question?</p> <p>19 A. At the instruction of counsel, I'm not</p> <p>20 going to answer your question.</p> <p>21 Q. In the TikTok case, as is reflected in</p> <p>22 paragraph 11 of Shafiq Exhibit 9, did you do public</p> <p>23 testing of websites?</p> <p>24 MR. ROBINSON: Same instruction not to answer</p> <p>25 on the same basis, unless a question implicates</p>	<p style="text-align: right;">Page 109</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Right, I get it. You don't want to answer</p> <p>3 my questions.</p> <p>4 Can you please read the first sentence of</p> <p>5 paragraph 11, sir?</p> <p>6 A. (Witness complies.)</p> <p>7 "Based on my public testing of websites</p> <p>8 using TikTok Pixel, including riteaid.com, I</p> <p>9 conclude that TikTok Pixel automatically collects</p> <p>10 the following seven categories of data for all</p> <p>11 events, including the default 'Page View' event."</p> <p>12 (Reporter seeks clarification.)</p> <p>13 Q. Thank you, sir.</p> <p>14 Did you write that sentence?</p> <p>15 A. Can I complete the sentence? Because the</p> <p>16 sentence is not completed.</p> <p>17 Q. Sure.</p> <p>18 A. (a) Timestamp; (b) IP Address; (c) User</p> <p>19 Agent; (d) Cookies, (e) URL; (f) in quotes 'Event</p> <p>20 information'; and (g) in quotes 'Content</p> <p>21 Information.'" Full stop.</p> <p>22 Q. Is the sentence you just read into the</p> <p>23 record something that you wrote, sir?</p> <p>24 MR. ROBINSON: Same instruction not to answer</p> <p>25 on the same basis.</p>

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<p>1 THE WITNESS: At the instruction of counsel, 2 I'm not going to answer your question. 3 BY MS. KLEIN: 4 Q. Can you please read the first sentence of 5 paragraph 12 into the record? 6 A. "I further developed a methodology to test 7 for any variability in TikTok Pixel's data 8 collection across different websites." 9 Q. Did you -- is this a true and correct 10 sentence of something you wrote in the TikTok 11 opinion? 12 MR. ROBINSON: Same instruction not to answer 13 on the same basis, the parties' expert stipulation. 14 THE WITNESS: At the instruction of counsel, 15 I'm not going to answer your question. 16 BY MS. KLEIN: 17 Q. Are you going to answer any questions I 18 ask today, sir, about your expert opinions that you 19 submitted in the TikTok case? 20 MR. ROBINSON: Objection; form. 21 THE WITNESS: I think I answered some of your 22 questions. 23 BY MS. KLEIN: 24 Q. Will you answer any questions I ask about 25 the substance of Shafiq Exhibit 9 or any of the</p>	<p>1 answer questions about this document. 2 BY MS. KLEIN: 3 Q. Professor Shafiq, what is your schedule 4 like for the rest of the month? 5 A. I'm actually attending the 2014 edition of 6 this conference at the end of the month. Other than 7 that, I'm generally available. 8 Q. And what about early November? 9 A. This conference is last week of October or 10 first week of November, overlapping. 11 Q. Where is it being held? 12 A. It's in Madrid. 13 Q. Very nice. 14 MR. ARTHUR: Would it be a good time for us to 15 take a break? 16 MS. KLEIN: I'll take a break just after I make 17 a record, which is I have probably a couple hours' 18 worth of questions that I was going to ask about his 19 methodologies in other cases. And so to the extent 20 that you're not going to allow him to answer, the 21 reason I asked for his schedule is I'm going to move 22 to compel and we will be back here. And, in fact, 23 I'm going to probably ask that he be required to 24 travel to New York since I took the time out of my 25 schedule to come all the way to San Francisco. And</p>
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<p>1 other expert opinions you've proffered in the TikTok 2 case? 3 MR. ROBINSON: Professor Shafiq, I'll go ahead 4 and instruct you that on the basis of the parties' 5 expert stipulation, that you may read publicly 6 available portions of expert reports, but any 7 further substance into opinions and assignments that 8 are outside the scope of your expert assignment and 9 unrelated matters, I'll instruct you not to answer. 10 BY MS. KLEIN: 11 Q. Are you going to follow your counsel's 12 instructions? 13 A. I'm going to follow my counsel's 14 instruction and not answer your questions about the 15 substance report or meaning of my work in an 16 unrelated manner. 17 Q. Any unrelated matter, not just TikTok, 18 because I have several other matters to discuss with 19 you about your methodologies today. 20 Is that correct, you're refusing to 21 testify about your publicly available opinions in 22 any other unrelated matter? 23 MR. ROBINSON: Same instruction on the same 24 basis. 25 THE WITNESS: Counsel has instructed me to not</p>	<p>1 if he won't come to New York, I'm happy to go to 2 Texas, where I also have family and where you guys 3 are located. 4 But this is ridiculous and I object and we 5 will be moving to compel. 6 MR. ROBINSON: We are standing on the basis of 7 the parties' agreed expert stipulation that 8 everyone's been working under. It is not our issue 9 that you prepared materials that were in violation 10 of the expert stipulation and we will stand on that 11 instruction and objection to those lines of 12 questions. 13 MR. ARTHUR: We've noted your objection. 14 MS. KLEIN: Let's take a break. 15 THE VIDEOGRAPHER: We're going off the record. 16 Time is 12:36. 17 (Recess taken.) 18 THE VIDEOGRAPHER: We're going back on the 19 record. Time is 12:59. 20 MR. ROBINSON: I'd like to briefly revise 21 plaintiff states' position regarding questions into 22 the expert's prior publicly available opinions or 23 reports in that we are going to allow questions 24 about this on a question-by-question basis. 25 And I will be periodically reminding the</p>

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<p style="text-align: right;">Page 114</p> <p>1 witness that in answering these questions, he will</p> <p>2 be bound by previous confidentiality orders he has</p> <p>3 signed in these other cases and also privilege</p> <p>4 protections between him and other entities that bind</p> <p>5 him in these previous matters.</p> <p>6 But we will otherwise allow questions on</p> <p>7 this -- on these subjects.</p> <p>8 MS. KLEIN: Thank you. And I will just say as</p> <p>9 we are going question by question, to the extent</p> <p>10 that there are objections about asking about</p> <p>11 testimony in other matters, just to remind you all</p> <p>12 that you -- the plaintiff states have requested</p> <p>13 expert reports from the MDL and the EDDA and that</p> <p>14 you can expect that to the extent that you seek to</p> <p>15 limit questioning on a certain basis that there will</p> <p>16 be discussion about whether it impacts questions</p> <p>17 related to those kinds of reports to the extent you</p> <p>18 seek to question witnesses about them.</p> <p>19 So thank you very much for the</p> <p>20 consideration.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. And we'll go back to Shafiq Exhibit 9,</p> <p>23 Professor Shafiq.</p> <p>24 Do you have Exhibit 9 in front of you?</p> <p>25 A. Yes.</p>	<p style="text-align: right;">Page 116</p> <p>1 Were you asked in this case to opine --</p> <p>2 not this case -- were you asked in the TikTok case</p> <p>3 to opine with respect to how TikTok collected and</p> <p>4 used various data?</p> <p>5 A. Without going into any confidential</p> <p>6 information in that matter, at a high level, that</p> <p>7 case involves data collection through the use of a</p> <p>8 specific piece of technology provided by TikTok.</p> <p>9 And again without going into any</p> <p>10 confidential information in that case, at a very</p> <p>11 high level, my opinions in that case delved into</p> <p>12 whether and how the product at issue in that case</p> <p>13 collected data.</p> <p>14 Q. And used data or just collected data?</p> <p>15 A. I can't recall from memory.</p> <p>16 Q. And you did public testing of websites;</p> <p>17 correct?</p> <p>18 A. Can you point me to a specific part of my</p> <p>19 report because --</p> <p>20 Q. Yes.</p> <p>21 A. -- I'm not sure if it is redacted in the</p> <p>22 protective order.</p> <p>23 Q. Paragraph 11 of your report reflects that</p> <p>24 you did public testing of websites. Correct?</p> <p>25 A. That's what paragraph 11 states.</p>
<p style="text-align: right;">Page 115</p> <p>1 Q. Previously when I asked you about -- oh,</p> <p>2 by the way, I meant to ask you, Professor Shafiq,</p> <p>3 after a break is there anything you want to clarify</p> <p>4 or change about your testimony?</p> <p>5 A. No.</p> <p>6 Q. Okay. Previously you testified that you</p> <p>7 did not know if Shafiq Exhibit 9 was a true and</p> <p>8 correct copy of a redacted version of your report.</p> <p>9 Do you recall that?</p> <p>10 A. Yes.</p> <p>11 Q. Okay. If you look on page 2 of Exhibit 9,</p> <p>12 is that your signature?</p> <p>13 A. Yes.</p> <p>14 Q. And were you asked to opine with respect</p> <p>15 to how TikTok collected and used various data in the</p> <p>16 case entitled Bernadine Griffith versus TikTok, Inc.</p> <p>17 and Bytedance, Inc.?</p> <p>18 MR. ROBINSON: And, Professor Shafiq, I'd like</p> <p>19 you to answer the question to the best of your</p> <p>20 ability, keeping in mind any confidentiality and</p> <p>21 applicable privileges in this case.</p> <p>22 THE WITNESS: Can you please rephrase the</p> <p>23 question?</p> <p>24 BY MS. KLEIN:</p> <p>25 Q. Yes.</p>	<p style="text-align: right;">Page 117</p> <p>1 Q. Did you do public testing of websites?</p> <p>2 A. My answer to the question -- I'm</p> <p>3 hesitating to answer your question because to answer</p> <p>4 your question, I will have to reveal the assignments</p> <p>5 or communications that were given to me by counsel</p> <p>6 in that matter.</p> <p>7 Q. Well, but if you look at Shafiq Exhibit 9,</p> <p>8 which is your report, even though it's redacted, it</p> <p>9 reflects that you did do public testing of websites.</p> <p>10 Do you see that?</p> <p>11 A. I think I answered your question. The</p> <p>12 paragraph states that public testing of websites was</p> <p>13 done.</p> <p>14 Q. Right.</p> <p>15 You did it; correct? You're the one who</p> <p>16 collected the information off the public websites</p> <p>17 with respect to the report?</p> <p>18 A. I cannot answer your question.</p> <p>19 Q. Either you or someone at your direction,</p> <p>20 without talking about who did it.</p> <p>21 It says, "based on my public testing." It</p> <p>22 was public testing done at your direction or</p> <p>23 someone . . .</p> <p>24 MR. ROBINSON: Professor Shafiq, you may answer</p> <p>25 in a "yes" or "no" format.</p>

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<p style="text-align: right;">Page 118</p> <p>1 THE WITNESS: Okay.</p> <p>2 Can you please repeat the question?</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. Yes.</p> <p>5 Professor Shafiq, in the TikTok case, did</p> <p>6 you do public testing of websites?</p> <p>7 A. Yes.</p> <p>8 Q. And, Professor Shafiq, pursuant to</p> <p>9 paragraph 12 of the TikTok declaration, did you</p> <p>10 develop a methodology to test for variability in</p> <p>11 TikTok Pixel's data collection across different</p> <p>12 websites?</p> <p>13 A. That's what the first sentence of this</p> <p>14 paragraph states.</p> <p>15 Q. Right.</p> <p>16 Did you -- did you develop that</p> <p>17 methodology? Because you've said you don't know if</p> <p>18 this is your report, so I'm just trying to figure</p> <p>19 out what you did. And based on what it says here</p> <p>20 that's publicly available, it seems that you did,</p> <p>21 but I just want to confirm.</p> <p>22 Did you develop a methodology to test for</p> <p>23 variability in TikTok Pixel's data collection across</p> <p>24 different websites?</p> <p>25 A. I was given a specific assignment by</p>	<p style="text-align: right;">Page 120</p> <p>1 A. I was given an assignment -- various</p> <p>2 assignments by counsel in that case. And to perform</p> <p>3 those assignments, I conducted some testing.</p> <p>4 Q. And did you develop a methodology or you</p> <p>5 just decided I'm going to test?</p> <p>6 A. I followed a methodology.</p> <p>7 Q. Did you develop the methodology?</p> <p>8 MR. ROBINSON: Same instruction regarding if</p> <p>9 you can answer that in a "yes" or "no" format.</p> <p>10 THE WITNESS: I used a methodology.</p> <p>11 BY MS. KLEIN:</p> <p>12 Q. Okay. So when it says in paragraph 12, "I</p> <p>13 further developed a methodology," it's not you that</p> <p>14 developed it and you were lying in paragraph 12?</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. Right? If you followed a methodology but</p> <p>18 you didn't develop it, it means you were lying in</p> <p>19 paragraph 12?</p> <p>20 MR. ROBINSON: Objection; form.</p> <p>21 THE WITNESS: Is that a question?</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. Yes, it's a question.</p> <p>24 Were you lying in paragraph 12 when you</p> <p>25 said you developed a methodology since you've</p>
<p style="text-align: right;">Page 119</p> <p>1 counsel in that case. And for that specific</p> <p>2 assignment that I was given by counsel, I had to</p> <p>3 conduct some testing.</p> <p>4 Q. And you also developed a methodology to</p> <p>5 conduct that testing; correct?</p> <p>6 MR. ROBINSON: You can answer that in a "yes"</p> <p>7 or "no" format if you can without violating</p> <p>8 confidentiality obligations or privilege</p> <p>9 protections.</p> <p>10 THE WITNESS: My testing develop -- the testing</p> <p>11 that I conducted followed a methodology.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. And you developed the methodology; right?</p> <p>14 That's what it says in paragraphs 12 and 13?</p> <p>15 A. There was a specific assignment that was</p> <p>16 given to me by counsel in that case.</p> <p>17 Q. For which --</p> <p>18 A. And --</p> <p>19 Q. -- for which you developed a methodology?</p> <p>20 A. Sorry. I'm lost. Can you please again</p> <p>21 ask your question?</p> <p>22 Q. Yes.</p> <p>23 Sir, with respect to the assignment you</p> <p>24 received in the TikTok case, you developed a</p> <p>25 methodology; correct? Yes or no?</p>	<p style="text-align: right;">Page 121</p> <p>1 testified here that you only used one?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: I'm not lying in that section of</p> <p>4 the report.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Okay. My question to you, sir, is I asked</p> <p>7 you did you develop a methodology, and you said, "I</p> <p>8 used a methodology."</p> <p>9 I'm asking you questions. And I'm going</p> <p>10 to have to get more time because you're not actually</p> <p>11 answering my questions, you're just saying what you</p> <p>12 want to say. You have to answer my questions, and</p> <p>13 if it's susceptible to "yes" or "no," you have to</p> <p>14 say "yes" or "no."</p> <p>15 Do you understand that, sir?</p> <p>16 A. You are asking me more pointed questions</p> <p>17 that get to the assignments that were given to me by</p> <p>18 counsel, the communications we had about --</p> <p>19 Q. I'm not -- sir, I'm only asking you</p> <p>20 exactly what's in your report that -- it says,</p> <p>21 [as read] "I further developed a methodology to test</p> <p>22 for any variability in TikTok's data collection</p> <p>23 across different websites."</p> <p>24 Did you formulate that methodology?</p> <p>25 A. That's what the sentence says.</p>

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<p style="text-align: right;">Page 122</p> <p>1 Q. Is it true? Or were you lying?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: The sentence is true.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. Okay. So it's true you developed a</p> <p>6 methodology in performing the assignment for the</p> <p>7 TikTok case?</p> <p>8 A. I used a methodology that I used to do the</p> <p>9 assignment that was given to me by counsel in that</p> <p>10 case.</p> <p>11 Q. Why aren't you agreeing with me that you</p> <p>12 developed one and just keeping saying "used"? Is</p> <p>13 there a difference between "developed" and "used"?</p> <p>14 A. To be able to answer that question, I need</p> <p>15 to get into the details of what the assignment was,</p> <p>16 how I exactly conducted it.</p> <p>17 I need to get into the nature of the work</p> <p>18 that I performed in that case that I believe is</p> <p>19 protected by confidentiality order that I signed,</p> <p>20 just like I signed a confidentiality order in this</p> <p>21 case.</p> <p>22 Q. But I'm only asking you if Section 12 is</p> <p>23 true.</p> <p>24 Did you develop a methodology in this</p> <p>25 case?</p>	<p style="text-align: right;">Page 124</p> <p>1 peer-reviewed research and other sources in my</p> <p>2 report.</p> <p>3 Q. And did you develop a methodology in this</p> <p>4 case for collecting data?</p> <p>5 A. My answer is the same as earlier.</p> <p>6 Q. Which is?</p> <p>7 A. I relied on peer-reviewed research paper</p> <p>8 that I'm describing that use the methodology that is</p> <p>9 acceptable in peer-reviewed research.</p> <p>10 Q. And so if you were to describe what your</p> <p>11 methodology was in creating your report, it would be</p> <p>12 reviewing and interpreting peer-reviewed papers and</p> <p>13 Google documents; correct?</p> <p>14 A. We can go to my report. There is a</p> <p>15 section in my report with -- going back to</p> <p>16 Exhibit 3.</p> <p>17 For example, in paragraph 41 of my report,</p> <p>18 I'm citing a number of research papers that study</p> <p>19 data collection by Google on various websites, and</p> <p>20 this is where I'm citing peer-reviewed research.</p> <p>21 MS. KLEIN: Objection; nonresponsive and move</p> <p>22 to strike.</p> <p>23 BY MS. KLEIN:</p> <p>24 Q. Professor Shafiq, what I'd like to know,</p> <p>25 if you were to describe what your methodology is and</p>
<p style="text-align: right;">Page 123</p> <p>1 A. If you ask me, for example, that there is</p> <p>2 something written on that piece of paper and you</p> <p>3 represent to me, like, this is something that you</p> <p>4 have gathered from the public record and it is true</p> <p>5 and accurate copy of the redacted report, the</p> <p>6 sentence says what it says.</p> <p>7 But if you ask me to expand on the</p> <p>8 details, the meaning behind that sentence, that is</p> <p>9 where I am bound by the confidentiality order in</p> <p>10 that case.</p> <p>11 Q. Okay. Did you develop a methodology for</p> <p>12 testing data in this case?</p> <p>13 MR. ROBINSON: Professor Shafiq, you can answer</p> <p>14 that in a "yes" or "no" format that likely -- you</p> <p>15 may answer that in a "yes" or "no" format.</p> <p>16 THE WITNESS: By "this case" you mean the --</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. Google.</p> <p>19 A. -- this present case or the TikTok case?</p> <p>20 Q. The Google case, sir.</p> <p>21 Did -- let me ask this directly.</p> <p>22 Professor Shafiq, did you develop a methodology for</p> <p>23 testing data in this case?</p> <p>24 A. No. In this case, I conducted -- I relied</p> <p>25 on the testing and the methodology that I cite from</p>	<p style="text-align: right;">Page 125</p> <p>1 how you created your report, would it be that you</p> <p>2 collected and reviewed and interpreted peer-reviewed</p> <p>3 papers in Google documents? Is that your</p> <p>4 methodology, sir?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: To form and offer the opinions</p> <p>7 that I'm offering in this report, I am relying on</p> <p>8 peer-reviewed research that has been published and</p> <p>9 the methodology that they use in turn and publicly</p> <p>10 available Google documents as well as internal</p> <p>11 Google documents.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. Anything else?</p> <p>14 A. I believe in some parts of the report, I</p> <p>15 also describe I'm citing deposition testimony that</p> <p>16 also gets to the issue of how Google collects data.</p> <p>17 Q. You also relied on Professor Hochstetler's</p> <p>18 report.</p> <p>19 Do you recall that?</p> <p>20 A. I believe I cited Professor Hochstetler's</p> <p>21 report.</p> <p>22 Q. Did you ever talk to him?</p> <p>23 A. No.</p> <p>24 Q. Did you ever talk to any of the experts?</p> <p>25 A. No.</p>

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<p>1 Q. In looking at your expert report and the</p> <p>2 depositions that you relied upon, it's on -- not</p> <p>3 page numbered, but it's on page 39 of your report.</p> <p>4 So if you go to the end of your -- the body of your</p> <p>5 report, which is page -- paragraph 85, the page</p> <p>6 after that starts "Appendix A: Materials Relied</p> <p>7 Upon."</p> <p>8 A. Yes.</p> <p>9 Q. It says, "Declarations, depositions and</p> <p>10 rog responses."</p> <p>11 Do you see that?</p> <p>12 A. Yes.</p> <p>13 Q. And you relied on three -- one declaration</p> <p>14 and two depositions.</p> <p>15 Do you see that?</p> <p>16 A. Yes.</p> <p>17 Q. And the deposition of Glenn Berntson is</p> <p>18 not on that list.</p> <p>19 Do you see that?</p> <p>20 A. What?</p> <p>21 Q. There's a declaration for Glenn Berntson.</p> <p>22 Do you see that?</p> <p>23 A. Yes.</p> <p>24 Q. But no deposition for Glenn Berntson;</p> <p>25 right?</p>	<p>1 to his deposition because I did not attend his</p> <p>2 deposition.</p> <p>3 Q. So you did not review or consider</p> <p>4 Mr. Berntson's deposition in connection with your</p> <p>5 report?</p> <p>6 A. Because, as you can tell, it essentially</p> <p>7 happened at the same time I submitted my report.</p> <p>8 Q. Well, it happened three days before and</p> <p>9 you could have attended, as you just said; correct?</p> <p>10 A. I was telling you that I was not at the</p> <p>11 deposition. I was not aware of deposition of</p> <p>12 Mr. Berntson.</p> <p>13 Q. That's something you would like to have</p> <p>14 considered in your report; correct?</p> <p>15 A. I don't know the scope and contents of</p> <p>16 that deposition.</p> <p>17 Q. You cite Mr. Berntson's declaration;</p> <p>18 correct?</p> <p>19 A. I cite Mr. Berntson's declaration because</p> <p>20 a lot of plaintiffs' experts were relying on</p> <p>21 Mr. Berntson's declaration in offering some opinions</p> <p>22 that they were offering. I read the declaration</p> <p>23 that was in the materials that were available to me.</p> <p>24 And as I explain later on in my report,</p> <p>25 that declaration does not provide context about the</p>
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<p>1 A. It does not say "deposition of Glenn</p> <p>2 Berntson."</p> <p>3 Q. And then if you turn the page to</p> <p>4 "Declarations, transcripts and exhibits," I don't</p> <p>5 see Glenn Berntson's deposition in that list either;</p> <p>6 correct?</p> <p>7 A. Which page or section are you referring</p> <p>8 to?</p> <p>9 Q. If you look at Appendix B, Materials</p> <p>10 Considered, the first through fourth pages talk</p> <p>11 about depositions and exhibits that you considered.</p> <p>12 And I'm asking, did you consider Glenn</p> <p>13 Berntson's deposition? Because it's not listed</p> <p>14 there either.</p> <p>15 A. Which specific deposition are you talking</p> <p>16 about?</p> <p>17 Q. Mr. Berntson, B-e-r-n-t-s-o-n [sic]?</p> <p>18 A. Can you give me maybe the Bates number or</p> <p>19 the date so I can refresh my memory?</p> <p>20 Q. His deposition was taken on September 6th,</p> <p>21 2024.</p> <p>22 A. September 6th?</p> <p>23 Q. Yes, sir.</p> <p>24 A. My report was submitted on September 9th.</p> <p>25 I imagine by September 9th, I would not have access</p>	<p>1 specific issue that I was addressing in my report.</p> <p>2 Q. You were retained in March of 2024;</p> <p>3 correct?</p> <p>4 A. That sounds right.</p> <p>5 Q. You did not submit an affirmative expert</p> <p>6 report in June of 2024; correct?</p> <p>7 A. That is correct.</p> <p>8 Q. Do you know why or why not?</p> <p>9 MR. ROBINSON: Instruct you not to answer</p> <p>10 anything that would reveal communications between</p> <p>11 yourself and attorneys, counsel in this case.</p> <p>12 THE WITNESS: Without revealing communication</p> <p>13 between myself and counsel in this case, I cannot</p> <p>14 answer your question. Hence, at the instruction of</p> <p>15 counsel, I'm not going to answer your question.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. How many hours of work had you performed</p> <p>18 between March and June of 2024?</p> <p>19 A. I don't exactly recall.</p> <p>20 Q. Were you performing work between March and</p> <p>21 June of 2024?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: Yes.</p> <p>24 BY MS. KLEIN:</p> <p>25 Q. You note in paragraph 17 of your report --</p>



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<p style="text-align: right;">Page 130</p> <p>1 you with me on paragraph 17? You say, "In their 2 opening reports, plaintiff's experts Dr. Gans and 3 Dr. Pathak opine on Google's decision to redact 4 certain fields in the BDT files." 5 Do you see that? 6 A. Yes. 7 Q. You then say that, "Dr. Gans opines that 8 Google's true motivation was to limit publisher's 9 ability to gain insights on competing exchanges and 10 header bidding, and that Google used privacy as a 11 pretext." 12 Do you see that? 13 A. Yes. 14 Q. Your opinion is also that Google used 15 privacy as a pretext; correct? 16 A. I am not offering that opinion. That is 17 Dr. Gans' opinion. 18 Q. You are not offering an opinion that 19 Google used privacy as a pretext in the BDT 20 programming? 21 A. I don't think I used those words in my 22 report. 23 Q. Your report says on page 9, which is right 24 before paragraph 18 -- 25 A. Yes.</p>	<p style="text-align: right;">Page 132</p> <p>1 are privacy concerns. 2 And I describe in that section of my 3 report that even Google's employees seem to indicate 4 that there were no user privacy concerns. And then 5 there was a plan developed to instead do the change 6 and justify it by saying it is necessary to protect 7 user privacy. 8 MS. KLEIN: Object as nonresponsive and move to 9 strike. 10 BY MS. KLEIN: 11 Q. Dr. Shafiq, we're going to be here a 12 really long time if you don't answer the question 13 that I ask, okay? 14 A. I believe I'm answering your question 15 truthfully and comprehensively. 16 Q. I don't believe you're actually answering 17 the question that I asked, though. So let me ask my 18 question again and then perhaps you can answer it. 19 MR. ROBINSON: Can we just get to the questions 20 instead of the -- 21 MS. KLEIN: Of course. 22 MR. ROBINSON: -- back and forth with the 23 witness? 24 BY MS. KLEIN: 25 Q. Dr. Shafiq, do you agree with me that in</p>
<p style="text-align: right;">Page 131</p> <p>1 Q. -- "Contrary to the assertions of Google's 2 experts, Google had no legitimate privacy concern to 3 redact fields in BDT files." 4 Do you see that? 5 A. Yes. 6 Q. Isn't that another fancy way of saying 7 that Google used privacy as a pretext? 8 MR. ROBINSON: Objection; form. 9 THE WITNESS: Can you clarify what you mean by 10 "fancy way"? 11 BY MS. KLEIN: 12 Q. Isn't that another way of saying that 13 Google used privacy as a pretext? 14 A. I would not put it that way. My opinion 15 simply is that Google -- based on all the evidence 16 that I have analyzed that was cited in Google's 17 experts' reports, I did not see any evidence that 18 would provide a legitimate privacy justification for 19 Google's decision to redact fields in BDT files. 20 Q. You agree with me that there was 21 information that Google expressed privacy concerns 22 when redacting BDT files; correct? 23 A. In my report I discuss, for example, 24 candid discussions between Google's employees 25 whether -- they were discussing whether or not there</p>	<p style="text-align: right;">Page 133</p> <p>1 some of the documents you reviewed, Google expressed 2 privacy concerns related to the BDT files? 3 A. I reviewed those documents and evaluated 4 and assessed the validity of those statements. 5 Q. Your opinion of the validity of those 6 statements; correct? 7 A. Yes. I'm basing my opinion based on 8 number of documents and evidence that I'm citing in 9 my report. 10 Q. And as we discussed earlier you're not a 11 mind reader; correct? 12 MR. ROBINSON: Objection; form. 13 THE WITNESS: I mean, I'm reading candid 14 discussions that are happening between different 15 Google employees. 16 BY MS. KLEIN: 17 Q. No, sir, my -- 18 A. Can I please complete my answer? 19 Q. Sure. 20 A. And unless those documents are lying, 21 Google's employees are lying, I am describing what 22 those documents are describing in plain text. 23 MS. KLEIN: Objection; nonresponsive and move 24 to strike. 25 BY MS. KLEIN:</p>

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<p>1 Q. As we discussed earlier, you're not a mind 2 reader; correct? 3 MR. ROBINSON: Objection; form. 4 BY MS. KLEIN: 5 Q. You're not a mind reader; correct? 6 A. I am not a mind reader, that's correct. 7 Q. And therefore, you don't really know 8 whether or not, when Google expressed in documents 9 that there were privacy concerns, if Google believed 10 it or not -- 11 MR. ROBINSON: Objection -- 12 BY MS. KLEIN: 13 Q. -- you don't know? 14 MR. ROBINSON: Objection; form. 15 THE WITNESS: Can you, for example, show me a 16 document that is cited in footnote 45? 17 BY MS. KLEIN: 18 Q. No, sir. Unfortunately, I'm asking the 19 questions, and I want an answer to my question. 20 My question to you, sir -- 21 MS. KLEIN: And I'll object as nonresponsive 22 and move to strike. 23 BY MS. KLEIN: 24 Q. -- because you're not a mind reader, you 25 don't know, when Google expressed privacy concerns</p>	<p>1 because you're not a mind reader, that when somebody 2 who authored a document expresses that there were 3 privacy concerns, you don't know whether he or she 4 believed it or not; right? 5 MR. ROBINSON: Objection; form. 6 THE WITNESS: It is context in those documents 7 that gives me reason to believe, and hence, I opined 8 that even Google's own employees knew that privacy 9 was not -- user privacy was not a concern. 10 BY MS. KLEIN: 11 Q. And that's based on an expert opinion or 12 your review of documents? 13 A. Can you please show me this document that 14 is cited in footnote 45? 15 Q. No, sir, I cannot. I'm asking you 16 questions and you're supposed to answer my 17 questions, which you're not doing. So let's go to 18 another question. And I'm going to mark that one in 19 the record as something else you didn't answer. 20 If you look at the document that you did 21 cite -- 22 MR. ROBINSON: I'd like to state for the record 23 that our position is that the witness adequately 24 answered the question. 25 MS. KLEIN: Well, I asked him that you didn't</p>
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<p>1 in the documents that you reviewed, whether Google 2 believed it or not, you just don't know? 3 A. The reason -- 4 MR. ROBINSON: Objection; form. 5 THE WITNESS: The reason I want to bring up 6 that document, and this is a document from which I 7 have a couple of screenshots, this is the document 8 where Google employees were expressing that this 9 change cannot be justified based on privacy. 10 And then, in addition to that, I'm looking 11 at the totality of the evidence. 12 MS. KLEIN: Objection; nonresponsive and move 13 to strike. 14 BY MS. KLEIN: 15 Q. Sir, yes or no, when Google expresses in 16 documents that you reviewed that there were privacy 17 concerns, you don't know, as you sit here today, as 18 to whether the person who authored that document 19 believed it or not? 20 MR. ROBINSON: Objection; form. 21 THE WITNESS: It is context to those documents 22 that you are refusing to consider. 23 BY MS. KLEIN: 24 Q. I'm not asking context. 25 I'm saying yes or no, you don't know,</p>	<p>1 know, when the author of the document expressed a 2 privacy concern, whether he or she believed it or 3 not, and he wouldn't say yes or no. So now I'm 4 going to prove that he did not answer the question 5 and we'll move on. 6 MR. ROBINSON: There's no basis -- there's no 7 reason for us to get into this, but I will say that 8 he pointed -- 9 MS. KLEIN: This is not a proper objection in 10 the Eastern District of Texas. You can say 11 objection to form or not. 12 MR. ROBINSON: Neither are your back and forth 13 with the witness. He provided you the basis for 14 your questions. 15 MS. KLEIN: You can say objection; form. You 16 have completely made this deposition -- you and the 17 witness have made this deposition go on much longer 18 and we may seek leave for additional time because 19 you're obstructing the deposition now, sir. You 20 know that the rules in the Eastern District of Texas 21 are objection; form. 22 BY MS. KLEIN: 23 Q. Professor Shafiq, on the next page of your 24 report following paragraph 30, do you see where 25 paragraph 30 is in your report?</p>

35 (Pages 134 - 137)



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1 A. Yes.

2 Q. Turn the page to the next page, to

3 Figure 1.

4 Do you see the slide that you have put in

5 your report?

6 A. Yes.

7 Q. Figure 1. It's a page that you decided

8 yourself to put in this report, correct, to cite?

9 Right?

10 A. That is correct.

11 Q. And you said -- so if you look at the

12 second bullet point -- well, let's back up. The

13 slide is titled "IP auction transparency narrative

14 at risk, due to [REDACTED]."

15 Do you see that?

16 A. Yes.

17 Q. And it said, first bullet point, "We made

18 a promise to provide complete transparency into the

19 unified IP auction."

20 Do you see that?

21 A. Yes.

22 Q. And the next bullet point says, "... but

23 have since realized this is incompatible with

24 [REDACTED]."

25 Do you see that?

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1 A. Yes.

2 Q. And then two bullet points down, it says,

3 "Today Bid DT can be joined with other DT files

4 (Impressions, Clicks, etc.) which may contain

5 user-identifiable information."

6 Do you see that?

7 A. Yes.

8 Q. And joining a Bid DT with other DT files

9 that have user-identifiable information causes a

10 privacy concern, doesn't it, sir?

11 A. I would not agree with that.

12 Q. Why not?

13 A. As I explain later on in my report, even

14 if it was theoretically possible -- and first, there

15 is no evidence, I've looked at those files, that

16 this was possible.

17 But if even it was theoretically possible,

18 the publisher is simply identifying the user on

19 their own website. The publisher already knows who

20 the user is. So it is not user's privacy.

21 Q. If you assume with me, Professor Shafiq,

22 that there's other user-identifiable information

23 besides just who the user is, that's contained in

24 the joinable data transfer files, would you agree

25 with me that it's a privacy concern?

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1 A. Can you give me an example of what you

2 mean by "other user-identifiable" --

3 Q. Any user-identifiable other than who the

4 user is, which is what you said the website already

5 knows.

6 A. If the website already knows who the user

7 is, it does not matter. For example -- sorry, can

8 you remind me what your name is?

9 Q. I'm going to ask you a different question.

10 If the website doesn't know who the user

11 is or if it contains information that the website

12 doesn't already have, don't you agree with me that

13 joining Bid DT files with other DT files that have

14 user-identifiable information is a privacy concern?

15 A. I'm disagreeing with your assumption that

16 you're asking me to make. You cannot make that

17 assumption because the user is on the publisher's

18 website. The publisher already knows who the user

19 is, can identify a user.

20 Q. What if the user is not signed in?

21 A. Sure.

22 Q. Then it's a privacy concern.

23 A. I would not agree with that, because there

24 is nothing in the bit data transfer files that would

25 reveal account holder information of the user.

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1 Q. How do you know that?

2 A. I've looked at the files.

3 Q. Not in this case, though, sir; correct?

4 A. I've looked at the files that are

5 available at the links at the site where Google

6 explains bit data transfer files, what is contained

7 in them.

8 Q. What could be contained in them, not what

9 is contained in them.

10 A. I mean, unless Google is lying in those

11 public-facing documents, I would think -- I think my

12 opinion is correct on that basis.

13 Q. Well, you haven't actually looked at the

14 data, so you haven't confirmed your opinion;

15 correct?

16 MR. ROBINSON: Objection; form.

17 THE WITNESS: I've looked at the files and the

18 fields that are contained in those files.

19 BY MS. KLEIN:

20 Q. In publicly available documents?

21 A. That I cite in my report where Google

22 provides a list of fields to publishers.

23 Q. But the list of field of publishers may

24 not have been the list of fields that was available

25 at this point in time, correct, because they're

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1 different dates?

2 A. As part of my assignment for this specific

3 opinion, I looked at the fields that existed in

4 2000 . . . just one . . . in 2019 and then the

5 changes that Google made and then the subsequent

6 change that Google made in 2024.

7 Q. Now, the list that you considered includes

8 optional information; right?

9 A. I will have to look at the document to be

10 able to reliably answer your question.

11 Q. You don't know, as you sit here today,

12 whether the list included optional information?

13 A. I will -- to be able to reliably answer

14 your question from memory, I have memorized every

15 single document that I've cited. I will have to

16 look at the document.

17 Q. Do you know who authored the document that

18 is Figure 1 in your report?

19 A. Can you show me that document? Because it

20 may contain -- I have not memorized who wrote that

21 document.

22 Q. I don't have it with me. I'd just like to

23 know if you know who authored it.

24 A. There were a number of Google employees

25 that were contributing to that document. I know

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1 that because the page right after the page that is

2 cited in Figure 2 of my report, it contained a list

3 of comments between different Google employees who

4 were contributing to this presentation. And I have

5 not memorized their names or if -- or how many there

6 were.

7 But that document would contain

8 information about who authored that document.

9 Q. Now, you understand that [REDACTED]

10 believed that there were privacy concerns; correct?

11 MR. ROBINSON: Objection; form.

12 THE WITNESS: That's correct.

13 BY MS. KLEIN:

14 Q. [REDACTED] is a Google employee?

15 A. I believe so.

16 Q. He was a Google employee in 2019?

17 A. Sitting here today, I do not recall from

18 memory whether he was a Google employee in 2019, but

19 I believe he was a Google employee at the time he

20 submitted his declaration, which I believe is

21 earlier this year.

22 MS. KLEIN: Why don't we -- why don't we take a

23 break then.

24 THE VIDEOGRAPHER: We're going off the record.

25 The time is 1:39.

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1 (Lunch recess was taken at 1:39 p.m.)

2 AFTERNOON SESSION 2:28 P.M.

3 - - -

4 THE VIDEOGRAPHER: We're back on the record.

5 The time is 2:28.

6 (Deposition Exhibit 10 was marked.)

7 EXAMINATION RESUMED

8 BY MS. KLEIN:

9 Q. Okay. Professor Shafiq, we're back on the

10 record after a lunch break.

11 Is there anything you want to change or

12 clarify about your testimony?

13 A. No.

14 Q. Okay. If you can reach over for Shafiq

15 Exhibit 10. This is the declaration of [REDACTED]

16 [REDACTED]

17 And my question to you, is this the

18 declaration of [REDACTED] that you rely upon in

19 reaching your opinions in this case?

20 A. I cite the declaration of [REDACTED].

21 Let me just make sure it is the same one.

22 Is this the same declaration that was

23 submitted Bates numbered GOOG 80 MDLC 000073682 or

24 it's a different one?

25 Q. It's the same one.

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1 A. Okay.

2 Q. If you take a look at Exhibit 10, the

3 declaration of [REDACTED], when we were previously

4 discussing him, I asked if he was a Google employee

5 in 2019.

6 Do you see in paragraph 1 where it says,

7 "I have worked for Google for approximately 12

8 years"?

9 A. Which paragraph are you pointing?

10 Q. Paragraph 1, sentence 1.

11 A. Yes.

12 Q. Does that refresh your recollection that

13 [REDACTED] was employed by Google in 2019?

14 A. Yes.

15 Q. Thank you.

16 We talked before the break about the

17 Figure 1 on page 12 of your report which comes after

18 paragraph 30. It's on the left side.

19 Do you see that?

20 A. Yes, I can see that.

21 Q. And you testified earlier that although

22 you understood that [REDACTED] believed that

23 privacy was an issue, you said in the document that

24 comprises Figure 1 that there were other employees

25 who were saying that privacy was not a concern to

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<p style="text-align: right;">Page 146</p> <p>1 them.</p> <p>2 Do you recall that testimony?</p> <p>3 A. I believe I discussed -- or described that</p> <p>4 in that presentation, the employees were discussing</p> <p>5 how the change needs to be messaged as to protect</p> <p>6 user privacy, rather than what the change was</p> <p>7 actually about.</p> <p>8 Q. Do you have any particular skill that I or</p> <p>9 the judge doesn't have that allows you to interpret</p> <p>10 the document?</p> <p>11 MR. ROBINSON: Objection; form.</p> <p>12 THE WITNESS: I'm a computer science professor.</p> <p>13 I'm a scientist. The topics at hand here deal with</p> <p>14 technical issues surrounding data and advertising.</p> <p>15 So I believe I'm relying on my background as a</p> <p>16 computer scientist to opine on this issue.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. Right.</p> <p>19 But being a computer scientist doesn't</p> <p>20 require -- well, reading a document and seeing what</p> <p>21 people say about it doesn't require any special</p> <p>22 skill beyond being able to read; right?</p> <p>23 A. It depends on what is in the document. If</p> <p>24 the document talks about technical concepts, as for</p> <p>25 example, this particular document and the</p>	<p style="text-align: right;">Page 148</p> <p>1 THE WITNESS: I'd have to think about this, but</p> <p>2 I did not use the term pretext. Like I said</p> <p>3 earlier, Dr. Gans, I believe, used that term.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. Right. But isn't saying "not a legitimate</p> <p>6 justification" the same thing as saying a pretext?</p> <p>7 A. I'm hesitating to answer because I want to</p> <p>8 make sure if there is a legal definition of the word</p> <p>9 "pretext." These are not the words I used. I would</p> <p>10 want to stick to the words that I used.</p> <p>11 Q. But you have a knowledge of -- the</p> <p>12 understanding of what the word pretext means; right?</p> <p>13 A. As a general level, yes.</p> <p>14 Q. And it means there's a reason given that's</p> <p>15 not a legitimate justification; right?</p> <p>16 A. I don't know. I don't want to offer an</p> <p>17 opinion about a term that may have a specific legal</p> <p>18 meaning. I'm simply describing and I stand by my</p> <p>19 words, which are that my research and analysis of</p> <p>20 all the evidence that I've looked at shows that</p> <p>21 privacy was not a legitimate justification.</p> <p>22 Q. You don't agree with me that you're saying</p> <p>23 the same thing as Dr. Gans, just coming from a</p> <p>24 different angle?</p> <p>25 MR. ROBINSON: Objection; form.</p>
<p style="text-align: right;">Page 147</p> <p>1 surrounding documents are, I think if you just pick</p> <p>2 a person randomly walking on the street and show him</p> <p>3 this document, I don't think that person will be</p> <p>4 able to fully understand what that document is</p> <p>5 talking about.</p> <p>6 Q. And that's the only skill, in addition --</p> <p>7 reading the technical aspects of the document that</p> <p>8 you had?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: And my background and training</p> <p>11 and my decades of experience as a computer scientist</p> <p>12 and then more precisely, for the last decade plus,</p> <p>13 doing research on online advertising specifically.</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. If you look at paragraph 29 of your report</p> <p>16 which is on the preceding page to the one you're</p> <p>17 looking at, you say, "Google's explain" -- I'm sorry</p> <p>18 -- "Google's unexplained about-face shows that</p> <p>19 privacy was not a legitimate justification for the</p> <p>20 redactions to the BDT files."</p> <p>21 Do you see that?</p> <p>22 A. Yes.</p> <p>23 Q. Isn't that another way of saying that it's</p> <p>24 a pretext?</p> <p>25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 149</p> <p>1 THE WITNESS: I think I can at least agree that</p> <p>2 I'm not disagreeing with Dr. Gans.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. Do you agree with Dr. Gans?</p> <p>5 A. Yes.</p> <p>6 Q. And your opinion is further support for</p> <p>7 Dr. Gans' opinion?</p> <p>8 A. The context of my opinion here is that</p> <p>9 Dr. Gans offered an opinion and then Google's expert</p> <p>10 said something to the effect of, like, Google's</p> <p>11 conduct, which was the redaction of bit data</p> <p>12 transfer files was justified by privacy concerns.</p> <p>13 So in that context is where I'm providing an opinion</p> <p>14 here.</p> <p>15 Q. Your opinion is that same as Dr. Gans,</p> <p>16 just from a different angle?</p> <p>17 MR. ROBINSON: Objection; form.</p> <p>18 THE WITNESS: My understanding is that</p> <p>19 Dr. Gans' opinion is -- and his set of opinions are</p> <p>20 far beyond what I am opining on in my report. I'm</p> <p>21 simply responding to Google experts' response to</p> <p>22 Dr. Gans' opinion that user privacy was a</p> <p>23 justification for Google to redact bit data transfer</p> <p>24 files.</p> <p>25 BY MS. KLEIN:</p>

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1 Q. Footnote 40 from paragraph 29 is -- looks  
2 like an analogy that you came up with; correct?  
3 A. That's correct.  
4 Q. And the analogy says, "Simply put, the  
5 situation is akin to a parent restricting their  
6 children from playing in the backyard. Imagine a  
7 parent who tells their children that they must not  
8 play in the backyard because it is dangerous. The  
9 children accept this reasoning at face value and  
10 adhere to the parent's directive. However, a week  
11 later, the parent suddenly asks the children to play  
12 in the backyard without any explanation to  
13 previously mentioned danger. The children are left  
14 wondering whether the parent's concerns about the  
15 backyard were valid."  
16 Is that correct?  
17 A. Yes.  
18 Q. There are reasons why parents would tell  
19 their children that the backyard is dangerous and  
20 they can't play in it for a day, aren't there?  
21 A. Can you clarify what you mean by parents  
22 will tell children or not tell children? What are  
23 the words you used?  
24 Q. Your analogy is a parent tells the  
25 children that they can't play in the backyard

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1 because it's dangerous; right?  
2 A. Yes.  
3 Q. I live in the northeast and Lyme disease  
4 is a huge concern. You understand that; right?  
5 A. Yes.  
6 Q. And therefore, three times a summer, I  
7 spray my backyard for ticks with chemicals.  
8 Have you ever done that?  
9 A. No.  
10 Q. And the chemicals that I spray my backyard  
11 with are poisonous. So on those days, I will tell  
12 children not to play in my backyard because it's  
13 dangerous.  
14 Do you understand that?  
15 A. I mean, making sense to me. Sure, go  
16 ahead.  
17 Q. So just because later, I would allow  
18 children to play in my backyard doesn't mean that  
19 what I said earlier is not a legitimate  
20 justification; right?  
21 A. But all I'm simply opining in this analogy  
22 is Google is treating publishers as children and not  
23 giving them justification about why Google reverted  
24 its stance.  
25 Q. Not a justification that you agree with,

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1 but there could be one that Google thought was  
2 appropriate; right?  
3 MR. ROBINSON: Objection; form.  
4 THE WITNESS: I -- in this part of my report, I  
5 am looking at the reports of Google's experts, as  
6 well as Mr. [REDACTED] declaration, and I've not  
7 seen any justification there. I've looked at the  
8 public documents. I've not seen any evidence in  
9 those public documents.  
10 BY MS. KLEIN:  
11 Q. Could you change your mind if you saw  
12 other justifications?  
13 A. I will have to look at the evidence that  
14 you present to me and then analyze it, put it in the  
15 context of everything else that exists, and then I  
16 will offer an opinion, if counsel asks me to offer  
17 an opinion.  
18 Q. Is it possible there could be more than  
19 one reason for a product decision?  
20 A. All I am opining on in this section of my  
21 report is that nothing that I've seen in evidence  
22 that is pointed by Google's experts and [REDACTED]  
23 would justify that change in the name of user  
24 privacy.  
25 Q. But it's possible that there could be more

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1 than one reason for a product decision?  
2 MR. ROBINSON: Objection; form.  
3 BY MS. KLEIN:  
4 Q. Right?  
5 A. There could be, yes.  
6 Q. We talked earlier about -- paragraph 33 of  
7 your report. Let's start, actually, with paragraph  
8 32 of your report. You said, paragraph 32, "After  
9 Google implemented the redactions, Google's internal  
10 correspondence shows that it received complaints  
11 from publishers who 'weren't completely convinced  
12 with the user privacy protection narrative.'"  
13 Did I read that correctly?  
14 A. Yes.  
15 Q. And then you say in paragraph 33, "The  
16 lack of justification for Google's BDT file  
17 redactions along with cited evidence--including  
18 Google's internal reference to its messaging as a  
19 'narrative'--indicates that Google's true intention  
20 for the BDT file redactions was not to protect user  
21 privacy."  
22 Did I read that correctly?  
23 A. That's correct.  
24 Q. And so you're inferring that the word  
25 "narrative" has a negative connotation; right?

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<p style="text-align: right;">Page 154</p> <p>1 A. I am also looking at the full scope of the 2 document where Google employees discuss whether or 3 not there were actually legitimate privacy concerns. 4 And in the absence of that and then combined with 5 this messaging that I explain here in this part of 6 my report, that's when I am reaching the conclusion 7 the intention was not to protect user privacy. 8 Like we discussed earlier, there might be 9 other reasons, but it is at least not to protect 10 user privacy. 11 MS. KLEIN: Objection; nonresponsive and move 12 to strike. 13 BY MS. KLEIN: 14 Q. My question, sir, was you're inferring 15 that the word "narrative," as used in the document, 16 has a negative connotation; correct? 17 You said, "including Google's internal 18 reference to its messaging as a 'narrative.'" You 19 were inferring that using the term "narrative" has a 20 negative connotation; correct? 21 (Witness reviews document.) 22 A. Yeah, "narrative" is the term that is used 23 by Google employees in their document that I cite in 24 the previous paragraph. And you can see here that 25 their -- the Google employee who is describing that</p>	<p style="text-align: right;">Page 156</p> <p>1 was a story that's not supported by facts. 2 Is that your interpretation of the word 3 "narrative" in this context? 4 MR. ROBINSON: Objection; form. 5 THE WITNESS: The user privacy narrative was -- 6 is not backed up by the evidence that I've seen in 7 this case. 8 BY MS. KLEIN: 9 Q. Sir, my question to you, and you haven't 10 answered it is, are you inferring that "narrative" 11 has a negative connotation in this context, yes or 12 no? 13 A. I'm simply trying to -- let me restart. 14 Q. No, sir, I don't want you to restart. I 15 want you to answer my question. 16 MR. ROBINSON: Counsel -- 17 BY MS. KLEIN: 18 Q. Are you inferring -- 19 MR. ROBINSON: -- I think he's attempting to 20 answer the question. 21 MS. KLEIN: No, he's not. 22 (Cross-talk.) 23 MS. KLEIN: I'm sorry. I've asked this -- 24 (Cross-talk.) 25 MS. KLEIN: You can only say objection; form,</p>
<p style="text-align: right;">Page 155</p> <p>1 exchange with publishers is that Google was not able 2 to convince publishers with its user privacy 3 protection narrative. 4 MS. KLEIN: Objection; nonresponsive and move 5 to strike. 6 BY MS. KLEIN: 7 Q. My question, sir, is you're inferring that 8 the word "narrative," as used in the document, has a 9 negative connotation; correct? 10 A. I'm simply using the word that was used by 11 a Google employee. 12 Q. And you don't know how the Google employee 13 was using that narrative because, as we established, 14 you're not a mind reader; right? 15 MR. ROBINSON: Objection; form. 16 THE WITNESS: I am using the word as it was 17 used by Google employee -- 18 BY MS. KLEIN: 19 Q. You don't -- 20 A. -- that they created a narrative. 21 Q. And you're inferring "narrative" has a 22 negative connotation? 23 A. Because based on all the evidence, that 24 narrative is not supported by facts. 25 Q. So your conclusion is the word "narrative"</p>	<p style="text-align: right;">Page 157</p> <p>1 sir. 2 MR. ROBINSON: Can you let the witness 3 finish -- 4 MS. KLEIN: No, I cannot. 5 (Cross-talk.) 6 MS. KLEIN: I want him to answer my question. 7 MR. ROBINSON: Well, you don't know because 8 you're interrupting him. He may -- 9 MS. KLEIN: I have asked my question four times 10 now and he hasn't answered it. 11 MR. ROBINSON: Professor Shafiq, please 12 finish -- 13 MS. KLEIN: This is a "yes" or "no" question. 14 MR. ROBINSON: -- please finish your answer 15 where you were at. 16 BY MS. KLEIN: 17 Q. Professor Shafiq, this is a "yes" or "no" 18 question. 19 Are you inferring that "narrative" has a 20 negative connotation, yes or no? 21 A. The context in which that word exists, I 22 describe that the facts do not support the 23 narrative, hence the narrative is false. In that 24 sense, you could say that I'm using the word 25 "narrative" in a negative sense.</p>



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<p style="text-align: right;">Page 158</p> <p>1 Q. But the definition of the word "narrative"</p> <p>2 does not include falsity, so it's an assumption that</p> <p>3 you're making from reading the documents and</p> <p>4 inferring intent; correct?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: I'm not making an assumption, I'm</p> <p>7 objectively evaluating all the facts, and based on</p> <p>8 the totality of facts, I'm offering the opinion that</p> <p>9 there was no user privacy justification. Like we</p> <p>10 discussed, this is exactly my opinion, that Google</p> <p>11 had no legitimate privacy concern to redact fields</p> <p>12 in BDT --</p> <p>13 (Reporter seeks clarification.)</p> <p>14 THE WITNESS: -- privacy concern to redact</p> <p>15 fields in BDT files.</p> <p>16 So that's the context in which this</p> <p>17 statement is happening, so it's not some assumption</p> <p>18 that I made. I did a careful analysis of various</p> <p>19 technical documents, all the evidence that I cite</p> <p>20 and describe in this part of my report.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. My question to you --</p> <p>23 MS. KLEIN: Objection; nonresponsive and move</p> <p>24 to strike --</p> <p>25 BY MS. KLEIN:</p>	<p style="text-align: right;">Page 160</p> <p>1 MR. ROBINSON: Objection; form.</p> <p>2 THE WITNESS: My use of the word "narrative"</p> <p>3 here in air quotes is informed by my analysis of all</p> <p>4 the evidence that I have discussed in that whole</p> <p>5 section of my report where I have reached the</p> <p>6 conclusion that user privacy was not a legitimate</p> <p>7 justification.</p> <p>8 So in that context, I am essentially</p> <p>9 reaching the conclusion that the narrative here was</p> <p>10 a false narrative.</p> <p>11 BY MS. KLEIN:</p> <p>12 Q. And that the person who wrote "narrative"</p> <p>13 was intending narrative as a false narrative; right?</p> <p>14 MR. ROBINSON: Objection; form.</p> <p>15 THE WITNESS: These are not the words that I</p> <p>16 used.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. No, it's what you're saying he was using,</p> <p>19 that the use of the term "narrative" in messaging</p> <p>20 meant that its true intention was something</p> <p>21 different.</p> <p>22 So you're saying the use of the word</p> <p>23 "narrative" meant false narrative. You're inferring</p> <p>24 intent; right?</p> <p>25 A. Those are not the words that I'm using.</p>
<p style="text-align: right;">Page 159</p> <p>1 Q. -- is that the word "narrative" -- the</p> <p>2 definition of the word "narrative" does not include</p> <p>3 falsity, as that word is commonly used; right?</p> <p>4 MR. ROBINSON: Objection; form.</p> <p>5 THE WITNESS: Yeah, it depends on the context</p> <p>6 in which the word "narrative" is used. Is it a true</p> <p>7 narrative or is it a false narrative?</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Right. And the document doesn't say "true</p> <p>10 narrative" or "false narrative," it just says</p> <p>11 "narrative." So you're inferring negative intent</p> <p>12 from your read of the documents; correct?</p> <p>13 MR. ROBINSON: Objection; form.</p> <p>14 THE WITNESS: The word "narrative" as it is</p> <p>15 used in paragraph 33 of my report comes with all the</p> <p>16 context that precedes it in that same paragraph.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. My question to you, sir --</p> <p>19 MS. KLEIN: Objection; nonresponsive and move</p> <p>20 to strike --</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. -- is that the document doesn't say a</p> <p>23 "true narrative" or a "false narrative," so you are</p> <p>24 inferring negative intent from your read of the</p> <p>25 document; correct?</p>	<p style="text-align: right;">Page 161</p> <p>1 I'm not opining on that specific thing in this</p> <p>2 section of my report.</p> <p>3 Q. You're not opining on whether "narrative"</p> <p>4 was meant as true or false; they just used the word?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: "Narrative" and "messaging" is</p> <p>7 the word that Google employees used. I am simply</p> <p>8 providing context to the word that the narrative was</p> <p>9 a false narrative.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. How can you provide false --</p> <p>12 (Reporter seeks clarification.)</p> <p>13 MS. KLEIN: That's what he said, yes, that the</p> <p>14 narrative is a false narrative.</p> <p>15 THE WITNESS: Yes, I think so.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. Did you speak with any Google employees in</p> <p>18 developing your opinions?</p> <p>19 A. No.</p> <p>20 Q. Did you speak with the author of the</p> <p>21 document?</p> <p>22 A. No.</p> <p>23 Q. Do you know who is the employee that used</p> <p>24 the word "narrative"?</p> <p>25 A. If you can show me that document -- like I</p>

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<p>1 mentioned, the next page of this document seems to</p> <p>2 contain back and forth between different Google</p> <p>3 employees and it may contain the names. I have not</p> <p>4 memorized their names.</p> <p>5 Q. As you sit here today, do you know who it</p> <p>6 was or did you consider his or her position when you</p> <p>7 were developing your report?</p> <p>8 MR. ROBINSON: Objection; form.</p> <p>9 THE WITNESS: I considered the document, which</p> <p>10 included, I believe, the identities of some, if not</p> <p>11 all, of the employees who were part of this</p> <p>12 document. But I have not memorized their name.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. Did you undertake an analysis of the</p> <p>15 position of the person who used the term "narrative"</p> <p>16 before you wrote your report?</p> <p>17 MR. ROBINSON: Objection; form.</p> <p>18 THE WITNESS: Sitting here today, I cannot</p> <p>19 perfectly recall from memory.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. Do you recall in the document if any of</p> <p>22 the employees thought there was a security concern?</p> <p>23 A. That does not ring a bell.</p> <p>24 Q. In paragraph 35 of the report, it goes to</p> <p>25 your opinion that open bidding is not better than --</p>	<p>1 MR. ROBINSON: Objection; form.</p> <p>2 THE WITNESS: I would not agree with that.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. Did you compare data fields as used in the</p> <p>5 actual program?</p> <p>6 A. Yes.</p> <p>7 Q. But you didn't look at Google's programs</p> <p>8 when you were developing this report, so you're</p> <p>9 basing it on publicly available documents; correct?</p> <p>10 A. So these protocols are what is also called</p> <p>11 open source protocols. The description of different</p> <p>12 fields is publicly available. This is true for</p> <p>13 Google's RTB. This is also true for header bidding.</p> <p>14 (Reporter seeks clarification.)</p> <p>15 A. Header bidding. And I cite that in early</p> <p>16 part of this paragraph.</p> <p>17 Q. Those are the fields that are available;</p> <p>18 correct?</p> <p>19 A. The document that -- for example, the</p> <p>20 document that I cite in 56, if my memory serves me</p> <p>21 correctly, this lists all the fields that are used</p> <p>22 in Google's RTB, including open bidding.</p> <p>23 Q. Those are fields that are available for</p> <p>24 use in RTB open bidding; correct?</p> <p>25 A. The documentation goes into more details</p>
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<p>1 better than -- excuse me.</p> <p>2 Paragraph 35 goes to your opinion that in</p> <p>3 terms of privacy open bidding is not better than</p> <p>4 header bidding.</p> <p>5 Do you see that?</p> <p>6 A. Yeah, that paragraph talks about my</p> <p>7 opinion that in terms of privacy, open bidding is</p> <p>8 not better than header bidding.</p> <p>9 Q. And you say at the end of paragraph 35</p> <p>10 that both header bidding and Google's open bidding</p> <p>11 send bid requests with similar --</p> <p>12 (Reporter seeks clarification.)</p> <p>13 Q. You say at the end of paragraph 35 that</p> <p>14 both header bidding and Google's open bidding send</p> <p>15 bid requests with similar data fields to bidders.</p> <p>16 Do you see that?</p> <p>17 A. Yes.</p> <p>18 Q. There's no citation to that section.</p> <p>19 Do you see that? To that sentence?</p> <p>20 A. That sentence does not have a citation.</p> <p>21 Q. And as we discussed before, while you</p> <p>22 reviewed publicly available information, you did not</p> <p>23 undertake an analysis of bid requests and what</p> <p>24 header fields -- excuse me, what data fields were</p> <p>25 sent in them; correct?</p>	<p>1 of which fields are used, which fields are no longer</p> <p>2 used, so there is more context in that document.</p> <p>3 Q. And so while the data fields could be</p> <p>4 similar, they're not the same; correct?</p> <p>5 A. When I did the analysis, I cannot recall</p> <p>6 what, if any, differences existed. But if my memory</p> <p>7 serves me correctly, there was no meaningful</p> <p>8 difference that was worth pointing out in the</p> <p>9 context of the opinion of Dr. Ghose.</p> <p>10 Q. And how did you do this analysis in</p> <p>11 particular?</p> <p>12 A. I looked at what Dr. Ghose was describing.</p> <p>13 He was describing, if I remember correctly -- I</p> <p>14 probably cite this.</p> <p>15 (Witness reviews document.)</p> <p>16 A. Yes. Yes.</p> <p>17 So I did this analysis on the -- based on</p> <p>18 what Dr. Ghose was describing in this part of his</p> <p>19 report. He was, I believe, talking about sharing of</p> <p>20 user identifiers.</p> <p>21 I did an analysis of the fields that are</p> <p>22 shared in open bidding, and I, for example, cite the</p> <p>23 document where Google lists all the fields that are</p> <p>24 used in open bidding.</p> <p>25 And I -- as I explain here in this part of</p>

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<p style="text-align: right;">Page 166</p> <p>1 my report that Google shares, for example, user IDs</p> <p>2 in cookies, the location information of the user,</p> <p>3 the URL and there are, I think, hundreds of other</p> <p>4 fields, so I did not list every single one of them.</p> <p>5 But the conclusion that I reached is they</p> <p>6 have similar data fields. So these privacy concerns</p> <p>7 that Dr. Ghose is trying to suggest that are</p> <p>8 applicable to header bidding, that's not a unique</p> <p>9 concern to header bidding. Google's open bidding</p> <p>10 is -- suffers from the same potential privacy</p> <p>11 concerns.</p> <p>12 Q. You didn't look at the source code of open</p> <p>13 bidding to determine how these fields are</p> <p>14 transmitted; correct?</p> <p>15 A. I did not look at the source code for the</p> <p>16 purposes of my report.</p> <p>17 Q. And you did not look at the source code to</p> <p>18 determine how Google's open bidding data fields are</p> <p>19 transmitted; correct?</p> <p>20 A. I looked at Google's documentation where</p> <p>21 Google explains in great detail how different data</p> <p>22 fields -- what they are, how they are transmitted,</p> <p>23 what is contained in them, how to use them. All of</p> <p>24 that information is available in the documentation.</p> <p>25 You don't need to look at source code.</p>	<p style="text-align: right;">Page 168</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. There's a lawsuit pending against Google</p> <p>3 relating to real-time bidding and consumer privacy;</p> <p>4 correct?</p> <p>5 A. Can you refresh my memory and point me to</p> <p>6 the specific [inaudible]?</p> <p>7 Q. Sure.</p> <p>8 You serve as an expert witness in a</p> <p>9 lawsuit called In re Google RTB Consumer Privacy</p> <p>10 Litigation, don't you?</p> <p>11 A. I do.</p> <p>12 Q. Okay. Is there a reason why you wouldn't</p> <p>13 just agree with me and you made me say the full name</p> <p>14 of the case?</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 THE WITNESS: I'm not sure if there are</p> <p>17 multiple cases against Google surrounding real-time</p> <p>18 bidding.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. And you submitted a declaration in support</p> <p>21 of class certification related to that case, didn't</p> <p>22 you?</p> <p>23 A. I submitted a report in that case.</p> <p>24 Q. And there was an opinion issued in that</p> <p>25 case related to your report in April of this year;</p>
<p style="text-align: right;">Page 167</p> <p>1 Source code will give you the same information that</p> <p>2 the documentation would give you, unless the</p> <p>3 documentation is wrong.</p> <p>4 Q. And you didn't undertake an analysis to</p> <p>5 see whether the open bidding documentation was</p> <p>6 wrong; correct?</p> <p>7 MR. ROBINSON: Objection; form.</p> <p>8 THE WITNESS: The documentation that I analyzed</p> <p>9 from Google's public-facing documentation of</p> <p>10 real-time bidding and open bidding, I assume Google</p> <p>11 was truthful in its representations.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. And you didn't undertake an analysis to</p> <p>14 see whether the header bidding documentation was</p> <p>15 wrong; correct?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: My answer would be the same here.</p> <p>18 But the context I just want to provide here is,</p> <p>19 like, in my research I study real-time bidding.</p> <p>20 I've written a number of papers about these topics.</p> <p>21 Nothing that I've seen in these documents</p> <p>22 contradicts my understanding that I've developed</p> <p>23 over the past many, many years based on my research</p> <p>24 and study of real-time bidding, header bidding and</p> <p>25 so on.</p>	<p style="text-align: right;">Page 169</p> <p>1 right?</p> <p>2 A. I don't know.</p> <p>3 Q. Never read the opinion?</p> <p>4 A. I don't know.</p> <p>5 Q. Are you aware that the judge said that</p> <p>6 your opinion was insufficiently developed?</p> <p>7 A. I don't know.</p> <p>8 Q. You've never read the opinion?</p> <p>9 A. No.</p> <p>10 Q. Why not?</p> <p>11 A. This is not something that I do. I'm a</p> <p>12 researcher. My job is to do technical research as</p> <p>13 part of my job as a professor, as an academic. And</p> <p>14 then I do write expert reports offering technical</p> <p>15 opinions, but I don't routinely wake up and start</p> <p>16 reading legal documents and audit is the term I</p> <p>17 think you used.</p> <p>18 Q. Are you aware in the TikTok case that the</p> <p>19 judge found that your opinions were misleading?</p> <p>20 A. What's the question?</p> <p>21 Q. I said are you aware in the TikTok case</p> <p>22 that the judge found that your opinion was</p> <p>23 misleading?</p> <p>24 A. I'm not aware of that.</p> <p>25 Q. You don't care.</p>

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<p style="text-align: right;">Page 170</p> <p>1 MR. ROBINSON: Objection; form.</p> <p>2 THE WITNESS: Can you show me the document?</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. Sure.</p> <p>5 (Deposition Exhibit 11 was marked.)</p> <p>6 THE WITNESS: Do you want me to read the whole</p> <p>7 document or . . .</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. I can point you to it if you'd like. It's</p> <p>10 on the second page, the opinion. Next to the part</p> <p>11 that says star 3, it says, [as read] "Plaintiffs</p> <p>12 cite to Dr. Shafiq's statement in his rebuttal</p> <p>13 report that '100 percent of the unmatched rows in</p> <p>14 (the sample of data collected by the Pixel that he</p> <p>15 analyzed) contained a hashed e-mail address, hashed</p> <p>16 phone number, or one of the three types of cookies."</p> <p>17 Do you see that?</p> <p>18 A. Yes, I'm reading that paragraph. And then</p> <p>19 what should I read?</p> <p>20 Q. The -- at the last sentence of the</p> <p>21 paragraph, it says, "Thus, saying that 100 percent</p> <p>22 of unmatched data contains phone numbers, e-mail</p> <p>23 addresses, or cookies is misleading as to the</p> <p>24 prevalence of PII given that at most 1.3 percent of</p> <p>25 the data contains phone numbers or e-mail</p>	<p style="text-align: right;">Page 172</p> <p>1 witnesses, I gave them that same right when I put</p> <p>2 new documents in front of them. It is a --</p> <p>3 MS. KLEIN: I have not said that he doesn't</p> <p>4 need to read it. I gave it to him.</p> <p>5 MR. ROBINSON: Then we agree on that --</p> <p>6 MS. KLEIN: I gave him plenty of time.</p> <p>7 MR. ROBINSON: -- and now he's reviewing it.</p> <p>8 MS. KLEIN: Well, I'm done with my question, so</p> <p>9 he doesn't need to review it.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. You can put that aside, sir.</p> <p>12 A. To clarify my answer to your question was,</p> <p>13 your representation --</p> <p>14 Q. No, sir.</p> <p>15 A. -- of that statement was wrong.</p> <p>16 Q. No, sir.</p> <p>17 Your next opinion is that -- starts on</p> <p>18 page 15 of your report in between paragraphs 36 and</p> <p>19 37. It says, [as read] "Google has a substantial</p> <p>20 data advantage over its competitors that reinforces</p> <p>21 through privacy-related justifications."</p> <p>22 Do you see that?</p> <p>23 A. Yes.</p> <p>24 Q. What is your understanding of who Google's</p> <p>25 competitors are in this case?</p>
<p style="text-align: right;">Page 171</p> <p>1 addresses."</p> <p>2 A. That's what the document says.</p> <p>3 Q. Right. So the judge found that your</p> <p>4 opinion was misleading.</p> <p>5 A. I think you're reading the document wrong.</p> <p>6 MR. ROBINSON: Professor Shafiq, I just want to</p> <p>7 remind you that if you want to --</p> <p>8 MS. KLEIN: I'm going to --</p> <p>9 MR. ROBINSON: -- review greater portions of</p> <p>10 the document to understand the context, you may.</p> <p>11 MS. KLEIN: I'm going to object to the coaching</p> <p>12 of the witness and not complying with the Eastern</p> <p>13 District of Texas rules that require you to be</p> <p>14 limited to saying, "Objection; form."</p> <p>15 MR. ROBINSON: It's not coaching the witness to</p> <p>16 get -- to tell him he has the right to review a</p> <p>17 document he's being shown for the first time.</p> <p>18 MS. KLEIN: He's been shown a lot of documents</p> <p>19 for the first time today, sir. You are coaching the</p> <p>20 witness, and it's inappropriate.</p> <p>21 MR. ROBINSON: And you've allowed him to review</p> <p>22 portions of the context of the new document.</p> <p>23 (Cross-talk.)</p> <p>24 MR. ROBINSON: This is a common courtesy that</p> <p>25 is extended. When I deposed Google's fact</p>	<p style="text-align: right;">Page 173</p> <p>1 A. For example, one of the things as I</p> <p>2 understand is alleged in this case is Google offers</p> <p>3 a product as an ad exchange and there exist other</p> <p>4 exchanges or exchange products. For example, we</p> <p>5 were talking about header bidding.</p> <p>6 Q. Can you name any other competitors?</p> <p>7 A. So header bidding, for example, can be</p> <p>8 offered by any number of companies. It's an open</p> <p>9 standard.</p> <p>10 Q. Do you have an understanding as to whether</p> <p>11 Amazon is a competitor of Google's in the</p> <p>12 advertising technology industry?</p> <p>13 A. It is my understanding that Amazon offers</p> <p>14 header bidding, if I remember correctly.</p> <p>15 Q. So you agree with me that Amazon's a</p> <p>16 competitor to Google?</p> <p>17 A. I'm not offering any opinion in this case</p> <p>18 about who Google is competing with in the context of</p> <p>19 this specific opinion. I'm talking about Google's</p> <p>20 data collection and data collection by other</p> <p>21 companies at large, and I'm simply enumerating, from</p> <p>22 peer-reviewed research and other data that is</p> <p>23 available, how does Google's data collection compare</p> <p>24 to other companies.</p> <p>25 Q. Do you have an understanding as to who</p>

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<p style="text-align: right;">Page 174</p> <p>1 Google's competitors are in this case, yes or no?</p> <p>2 A. I think I gave you an example.</p> <p>3 Q. I understand that. I'm asking -- you said</p> <p>4 Google has a substantial data advantage over its</p> <p>5 competitors.</p> <p>6 A. Yeah.</p> <p>7 Q. And I want to know who are those</p> <p>8 competitors that you're referring to here, sir?</p> <p>9 A. So in the context of the previous example,</p> <p>10 it would be, for example, any company that offers an</p> <p>11 ad exchange. For example, there are companies</p> <p>12 like -- if I remember correctly, Index Exchange is</p> <p>13 one company that offers an ad exchange product that</p> <p>14 you could say is another product similar to Google</p> <p>15 AdX that could be called competition, not in a legal</p> <p>16 sense, but --</p> <p>17 (Reporter seeks clarification.)</p> <p>18 A. Called a competitor, but not in a legal</p> <p>19 sense because I'm not offering any legal opinions</p> <p>20 about competitors or competition in this matter.</p> <p>21 Q. Except you're opining as to Google's data</p> <p>22 advantage over its competitors. If you don't know</p> <p>23 who the competitors are, sir, how can you opine that</p> <p>24 Google has a data advantage over its competitors?</p> <p>25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 176</p> <p>1 Q. So you consider Meta a competitor for</p> <p>2 purposes of your report?</p> <p>3 A. Google collects data as a third party on</p> <p>4 various websites. Meta also collects data as a</p> <p>5 third party on different websites.</p> <p>6 As I explain here in this part of my</p> <p>7 report, Google collects -- this is a peer-reviewed</p> <p>8 research that shows that Google collects data from</p> <p>9 72.33 percent of the websites. And Google's</p> <p>10 coverage, in terms of third-party data collection,</p> <p>11 is 2.7 times more than Meta.</p> <p>12 Q. My question to you, sir --</p> <p>13 MS. KLEIN: Objection; nonresponsive and move</p> <p>14 to strike.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. -- was, do you consider Meta a competitor</p> <p>17 for purposes of your report?</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 THE WITNESS: In the context of this opinion,</p> <p>20 Google offers a product using which it collects data</p> <p>21 as a third party from users on non-Google websites.</p> <p>22 Facebook also offers a similar product.</p> <p>23 In the context of this comparison, I am identifying</p> <p>24 Meta as a potential competitor. But again, I want</p> <p>25 to caution, I'm not using the word "competitor" or</p>
<p style="text-align: right;">Page 175</p> <p>1 THE WITNESS: Google's expert, Dr. Ghose, there</p> <p>2 in that part of his report, is offering how Google</p> <p>3 has -- he's describing Google's data collection and</p> <p>4 then compare it -- compares it to its competitors.</p> <p>5 So in that context, in the later part of</p> <p>6 this section, I outline various Google products and</p> <p>7 services and where applicable, I'm also listing</p> <p>8 other companies who collect similar data.</p> <p>9 And then I'm doing a comparison whether or</p> <p>10 not Google has access to more data than its other</p> <p>11 competitors.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. Who are the other competitors, though,</p> <p>14 sir? I need to understand, if you have an</p> <p>15 understanding, as to who the competitors are in this</p> <p>16 case.</p> <p>17 A. Let me give you a precise --</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. Names of companies, please.</p> <p>21 A. Let me give you a precise example.</p> <p>22 Paragraph 41, subparagraph C, sub-subparagraph 2,</p> <p>23 there I am giving an example by comparing Google's</p> <p>24 data collection as compared to Facebook, Meta, for</p> <p>25 instance.</p>	<p style="text-align: right;">Page 177</p> <p>1 "competition" in a legal sense.</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. You say "potential competitor."</p> <p>4 Is it a competitor or not for purposes of</p> <p>5 your report?</p> <p>6 A. In the context of this sentence, I'm</p> <p>7 considering it a competitor.</p> <p>8 Q. And in the context of your report, are you</p> <p>9 considering Amazon, who also collects data on</p> <p>10 websites, as a competitor to Google?</p> <p>11 A. All of these papers, they enumerate the</p> <p>12 names of all companies that engage in data</p> <p>13 collection on the web. It is my understanding that</p> <p>14 those companies include, but are not limited to,</p> <p>15 companies like Index Exchange, OpenX, Amazon,</p> <p>16 Facebook, so on and so forth.</p> <p>17 Q. Do you consider any competitors for</p> <p>18 purposes of your report that don't have an ad</p> <p>19 exchange?</p> <p>20 A. Sitting here today, I do not perfectly</p> <p>21 recall from memory whether and which of those</p> <p>22 companies have or not have an ad exchange. I'll</p> <p>23 have to consult the documents to be able to more</p> <p>24 reliably answer your question.</p> <p>25 Q. In addition to Meta, Index Exchange,</p>

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<p style="text-align: right;">Page 178</p> <p>1 OpenX, Amazon, and Facebook, is TikTok a competitor?</p> <p>2 A. This is not something that I'm opining</p> <p>3 about in my report.</p> <p>4 Q. That TikTok is a competitor or who the</p> <p>5 competitors are?</p> <p>6 MR. ROBINSON: Objection; form.</p> <p>7 THE WITNESS: The general question, who the</p> <p>8 competitors are. Because that question requires</p> <p>9 context, would require me to carefully look at the</p> <p>10 documents that I'm citing. I did not list here</p> <p>11 TikTok as a company that is described in these</p> <p>12 papers.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. Does TikTok collect data about its users?</p> <p>15 A. Yes.</p> <p>16 Q. TikTok collects data generally?</p> <p>17 A. My response to your question was generally</p> <p>18 every company collects data. That's a true</p> <p>19 statement.</p> <p>20 (Reporter seeks clarification.)</p> <p>21 MR. ROBINSON: Do you agree with that, Zubair?</p> <p>22 Do you agree with that testimony?</p> <p>23 THE WITNESS: Can you please repeat? Who was</p> <p>24 reading?</p> <p>25 BY MS. KLEIN:</p>	<p style="text-align: right;">Page 180</p> <p>1 Q. No, that was my question.</p> <p>2 Some of the companies that you consider</p> <p>3 competitors are competitors in the advertising</p> <p>4 technology space; correct?</p> <p>5 A. Yeah. I think, for example, we discussed</p> <p>6 Index Exchange and OpenX. Those are companies who</p> <p>7 collect -- who have an ad exchange or had an ad</p> <p>8 exchange, I'm forgetting, but they also collect data</p> <p>9 as a third party, just as Google does.</p> <p>10 And a number of other tech companies also</p> <p>11 collect data from consumers as a third party. My</p> <p>12 opinion in this section of my report simply is that</p> <p>13 Google collects far more data.</p> <p>14 Essentially if you go to any website,</p> <p>15 there is a 70 to 80 percent probability that Google</p> <p>16 is collecting data from you on that website, and</p> <p>17 Google's coverage of users' browsing history is far</p> <p>18 greater than any other company that has been studied</p> <p>19 in peer-reviewed research.</p> <p>20 MS. KLEIN: Objection; nonresponsive and move</p> <p>21 to strike.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. My question to you, sir, was, some of the</p> <p>24 companies that you consider competitors are in the</p> <p>25 advertising technology space; correct?</p>
<p style="text-align: right;">Page 179</p> <p>1 Q. I was -- I was repeating that you said</p> <p>2 every company collects data. That's a true</p> <p>3 statement.</p> <p>4 Is that what you just said?</p> <p>5 A. Yes.</p> <p>6 Q. Dr. Shafiq, your opinion in this section</p> <p>7 is that Google has a substantial data advantage over</p> <p>8 its competitors that Google reinforces through</p> <p>9 privacy-related justifications.</p> <p>10 Now, my question to you is, if you cannot</p> <p>11 name who the competitors are, how am I supposed to</p> <p>12 evaluate whether your statement is true or not?</p> <p>13 MR. ROBINSON: Objection; form.</p> <p>14 THE WITNESS: I disagree with your</p> <p>15 representation. I think I just gave you names of a</p> <p>16 bunch of Google's competitors. And if you read</p> <p>17 these research papers, these papers list all the</p> <p>18 other companies that are studied who are collecting</p> <p>19 data from consumers in various ways.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. And so some of the companies that you</p> <p>22 consider competitors are competitors in the ad tech</p> <p>23 space; right?</p> <p>24 A. It seems to me that you are going to</p> <p>25 complete your sentence.</p>	<p style="text-align: right;">Page 181</p> <p>1 A. You want me to repeat my answer? Because</p> <p>2 I think I answered your question and then added some</p> <p>3 more context.</p> <p>4 Q. You never said yes or no.</p> <p>5 Are some of the competitors that you</p> <p>6 listed in the advertising technology space?</p> <p>7 A. Can you please rephrase your question?</p> <p>8 Q. Yes.</p> <p>9 Are some of the competitors that you</p> <p>10 listed, as we were discussing, competitors to Google</p> <p>11 in the advertising technology space?</p> <p>12 A. In this part of my report, I am describing</p> <p>13 research papers that generally study data collection</p> <p>14 by tech companies, including Google, and some of</p> <p>15 those companies, such as OpenX, offer an ad exchange</p> <p>16 product, which would be a competitor to Google's ad</p> <p>17 exchange.</p> <p>18 Q. And some of the companies may be</p> <p>19 competitors, but not in the ad exchange world;</p> <p>20 correct?</p> <p>21 A. Yes.</p> <p>22 Q. Did you do any independent research to</p> <p>23 confirm the findings -- I'm sorry, the opin -- the</p> <p>24 findings of the papers that you cited in this</p> <p>25 section of your report?</p>

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<p style="text-align: right;">Page 182</p> <p>1 A. Yes. These are the papers that I am very 2 familiar with. I have looked at the underlying data 3 of some of those papers. This is I think what we 4 were discussing earlier in the report. 5 I teach classes on online tracking and 6 advertising, and as part of that, I've taught these 7 papers and I've conducted or reproduced parts of 8 these papers, so I'm very intimately familiar with. 9 And as you can see, all of these papers, 10 there is broad consensus as to what the results of 11 this study is, that Google is by far the most 12 omnipresent third-party tracker on the web. 13 Q. Did you look at any data that Google 14 produced in the case in this section of your report? 15 A. You're talking about Section 4 broadly or 16 you're talking about just paragraph 41? 17 Q. Paragraph 41. Did you look at any of 18 Google's data to try to confirm your opinions in 19 paragraph 41? 20 A. Here I am -- no, here I am relying on 21 peer-reviewed research, as well as other publicly 22 available reports about the market share of Google's 23 products and services. 24 Q. We talked a little bit earlier about your 25 paper regarding Amazon Alexa.</p>	<p style="text-align: right;">Page 184</p> <p>1 Is there anything you want to clarify 2 about your prior testimony? 3 A. Yes. 4 Q. What is that? 5 A. I just want to clarify that when you were 6 asking me questions about who Google's competitors 7 are, I was not offering a legal opinion about who 8 Google's competitors are. 9 In the part of my report where I'm talking 10 about -- I'm listing various competitors, these are 11 other companies who, for example, in paragraph 40, 12 Subsection C, these are the companies who collect 13 data as a third party, just as Google. 14 And the research papers that I'm citing, 15 they discuss companies, including Google and other 16 companies, such as Facebook, Microsoft, Amazon, and 17 we discussed Index Exchange and OpenExchange that 18 also collect data as a third party from consumers. 19 So I just want to clarify that. 20 Q. And you decided you wanted to make this 21 clarification after we just took a 10-minute break 22 and you had the opportunity to discuss your 23 testimony with your counsel? 24 A. Is there a question? 25 Q. Yes.</p>
<p style="text-align: right;">Page 183</p> <p>1 Do you recall that? 2 A. Yes. 3 Q. Amazon collects data from the Amazon Alexa 4 speakers; correct? 5 A. Yes. 6 Q. It also collects data from its website? 7 A. I've not recently conducted a study of 8 Amazon's website, but based on my general 9 understanding, I think it's fair to assume that 10 Amazon collects some data from users who use 11 Amazon's website, just like Google collects data 12 from users who use Google's website. 13 THE REPORTER: If we can take a break. 14 MS. KLEIN: Sure, let's take a break. 15 THE VIDEOGRAPHER: We're going off the record. 16 The time is 3:18. 17 (Recess taken.) 18 THE VIDEOGRAPHER: We're back on the record. 19 The time is 3:38. 20 MR. ROBINSON: At this time, Professor Shafiq 21 would like to make some clarifications to his 22 previous testimony. 23 BY MS. KLEIN: 24 Q. Dr. Shafiq, we're back on the record after 25 a short break.</p>	<p style="text-align: right;">Page 185</p> <p>1 You decided you wanted to make this 2 clarification after we took a 10-minute break and 3 you decided you wanted to -- and you had an 4 opportunity to discuss your prior testimony with 5 your counsel? 6 A. Yes. 7 Q. Now, I had asked you previously who you 8 considered Google's competitors to be, as you were 9 using the term throughout Section 4 of your report; 10 correct? 11 A. I can't remember the exact question that 12 you asked me. If you could maybe rephrase the 13 question, I'm happy to answer it again. 14 Q. After you've had the opportunity to 15 discuss your testimony with your counsel and take a 16 10-minute break, are there any competitors who you 17 listed previously that you'd like to remove from the 18 discussion we had before the break? 19 A. No. I'm simply here -- I'm going to point 20 out that, for example, paragraph 41C is discussing 21 Google's data collection as a third party. 22 And the peer-reviewed research that I'm 23 citing here is describing other companies that also 24 collect data as a third party. So the use of the 25 word "competitor" in that context is data collection</p>

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<p style="text-align: right;">Page 186</p> <p>1 as a third party.</p> <p>2 And those include, like I said earlier,</p> <p>3 companies like Facebook, Microsoft, Amazon, Index</p> <p>4 Exchange, OpenExchange. And I'm sure in the papers</p> <p>5 they list many more companies that, in that context,</p> <p>6 also collect data from users as a third party.</p> <p>7 Q. Just because a company collects data</p> <p>8 doesn't mean it actually uses it; correct?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: In theory, it is possible that a</p> <p>11 company collects data, but does not use it.</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. Does Meta collect first party data?</p> <p>14 A. Facebook collects data from Facebook users</p> <p>15 on Facebook's website.</p> <p>16 Q. Well, not just the website; right? It</p> <p>17 also has an app?</p> <p>18 A. Which app are you referring to?</p> <p>19 Q. The Facebook app.</p> <p>20 A. Yes.</p> <p>21 Q. And Meta also collects data from its other</p> <p>22 business lines; right?</p> <p>23 A. Can you please clarify what you mean by</p> <p>24 "business lines"?</p> <p>25 Q. Sure.</p>	<p style="text-align: right;">Page 188</p> <p>1 what you mean by business lines, to be more precise?</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Amazon collects first-party data from its</p> <p>4 website?</p> <p>5 A. Sure, yes.</p> <p>6 Q. Amazon collects first-party data from</p> <p>7 Alexa?</p> <p>8 A. Sure.</p> <p>9 Q. That's a "yes"?</p> <p>10 A. Yes.</p> <p>11 Q. Amazon collects data from Whole Foods?</p> <p>12 A. I'm not sure about that.</p> <p>13 Q. It could, you just don't know?</p> <p>14 A. I don't know.</p> <p>15 Q. Amazon collects data from Twitch?</p> <p>16 A. I'm not sure.</p> <p>17 Q. Amazon collects data from its app, the</p> <p>18 Amazon app?</p> <p>19 A. Yep, yes.</p> <p>20 Q. And Meta collects data from Instagram,</p> <p>21 both its app and the website; correct?</p> <p>22 A. I'm not sure about the website. I know</p> <p>23 they collect data from the app.</p> <p>24 Q. And Amazon has a very large cloud service;</p> <p>25 right?</p>
<p style="text-align: right;">Page 187</p> <p>1 Does Meta collect data from Instagram?</p> <p>2 A. I believe so.</p> <p>3 Q. First-party data; correct?</p> <p>4 A. Yes.</p> <p>5 Q. And Meta collects first-party data from</p> <p>6 WhatsApp?</p> <p>7 A. That, actually, I'm not sure about,</p> <p>8 because it was my understanding -- again, this is</p> <p>9 not something that I'm opining on in the report, but</p> <p>10 my general understanding is that Meta either does</p> <p>11 not or -- yeah, probably does not collect data from</p> <p>12 WhatsApp. I'll have to clarify, check the evidence,</p> <p>13 but I'm not sure about WhatsApp.</p> <p>14 Q. What about Facebook Messenger, does Meta</p> <p>15 collect data from Facebook Messenger?</p> <p>16 A. I believe so.</p> <p>17 Q. Does it collect data from Threads?</p> <p>18 A. I'm not sure about Threads.</p> <p>19 Q. It could or it could not, you just don't</p> <p>20 know as you sit here?</p> <p>21 A. I don't know.</p> <p>22 Q. And Amazon has a variety of business lines</p> <p>23 from which it collects data; correct?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: Can you again give me examples of</p>	<p style="text-align: right;">Page 189</p> <p>1 A. Amazon has a service called AWS.</p> <p>2 Q. And Amazon collects data from AWS?</p> <p>3 A. I'm not sure because I'll have to look</p> <p>4 at -- I'll have to look at the documentation to be</p> <p>5 able to reliably answer your question.</p> <p>6 Q. Does Amazon collect data from Audible?</p> <p>7 A. I'm not sure.</p> <p>8 Q. What about Fire?</p> <p>9 A. Yes.</p> <p>10 Q. Wondery?</p> <p>11 A. Sorry, what?</p> <p>12 Q. Wondery?</p> <p>13 A. Can you spell it?</p> <p>14 Q. W-o-n-d-e-r-y. It's its podcast app.</p> <p>15 A. I'm not aware of that.</p> <p>16 Q. So if you don't know all of the various</p> <p>17 business lines from which Amazon collects data, how</p> <p>18 do you know that Google somehow has an advantage in</p> <p>19 data over Amazon?</p> <p>20 A. In my report, I break down data collection</p> <p>21 by Google into, as we were discussing, first party,</p> <p>22 third party. And then I also briefly mentioned</p> <p>23 second party.</p> <p>24 So the most recent discussion that we have</p> <p>25 had is in the context of first party. And Google's</p>

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<p style="text-align: right;">Page 190</p> <p>1 first party products, as I describe, list here in my 2 report, they have very large market share. 3 For example, Google Search has 88 percent 4 market share, YouTube has 81 percent market share, 5 and Google Maps has a 72 percent market share. 6 Other companies could also collect data from -- as a 7 first party, as we were discussing. 8 And then I, for example, later on explain 9 data collection as a third party. And that's where 10 I list -- and you can make a more -- 11 (Reporter seeks clarification.) 12 A. A direct one-to-one comparison that 13 Google's data collection, as compared to any of its 14 potential competitors, any other tech company, for 15 that matter, is at least two to three times more 16 Google's coverage in terms of data collection. 17 Q. But how do you know that if you don't even 18 know the business lines of Amazon that collect data? 19 A. Because in those research papers that I'm 20 citing there, the methodology that is used -- that 21 was used in those papers, as well is you look at the 22 domain, which is collecting the data, and then you 23 map it to the organization. I have not memorized 24 every single domain and organization. 25 But since Amazon is mentioned in all of</p>	<p style="text-align: right;">Page 192</p> <p>1 THE WITNESS: For example, paragraph 41(c), I'm 2 also citing papers that were published recently or 3 that are based on more recent data. For example, 4 the paper in 2022. That's one of the more recent 5 papers that was published in a conference where they 6 do a similar comparison and reach a similar 7 conclusion. 8 BY MS. KLEIN: 9 Q. And yet we're in 2024 and the way people 10 use the Internet has changed; correct? 11 MR. ROBINSON: Objection; form. 12 THE WITNESS: The big picture I want to convey 13 here is that sure, people's Internet usage over time 14 changes. 15 But the picture that emerges from all of 16 this research that spans more than a decade, if you 17 put all of these together, the common theme is what 18 I am describing here in this part of my report, that 19 Google's third-party data collection network is by 20 far the most comprehensive, as compared to any other 21 company on the planet. 22 BY MS. KLEIN: 23 Q. But as we sit here today, you don't know 24 whether Amazon's data -- as you sit here today, you 25 don't know whether Amazon's third-party data</p>
<p style="text-align: right;">Page 191</p> <p>1 those papers. So the researchers map the domain, 2 all domains that belong to Amazon through the 3 organization, and do an organization level 4 comparison. 5 And for example, the paper that I cite in 6 41(c)(v), that I remember distinctly does this 7 organization level comparison. 8 Q. So 41(c)(v) -- well, would you agree with 9 me, Dr. Shafiq, that the adoption of the Internet 10 and apps and data collection has increased over the 11 course of time? 12 MR. ROBINSON: Objection; form. 13 THE WITNESS: Can you please break it down 14 because you have several different things in the 15 first part of your statement? Then I will hopefully 16 be able to give agreeable answers to you. 17 BY MS. KLEIN: 18 Q. Sure. Let's do it this way. 19 The section you just cited, 41(c)(v) on 20 page 18 of your report, is a 2016 report. That data 21 is old and cold, isn't it? And Amazon's footprint 22 looks so different today than it did in 2016; right? 23 MR. ROBINSON: Objection; form. 24 THE WITNESS: In that section of my report -- 25 (Reporter seeks clarification.)</p>	<p style="text-align: right;">Page 193</p> <p>1 collection is bigger than Google's, because you 2 haven't analyzed what Amazon's third-party data 3 network is. 4 MR. ROBINSON: Objection; form. 5 THE WITNESS: I would not agree with that. 6 BY MS. KLEIN: 7 Q. Do you know which companies are in 8 Amazon's third-party data collection today? 9 A. Yes. They would be listed in the citation 10 that I have in footnotes -- similar to footnotes 87, 11 88, 89, 90. This refers to an open source data 12 collection effort that is publicly available on 13 GitHub. You can type in the name of the company and 14 it will show you names of all the domains that 15 belong to an organization. 16 And if I remember correctly, the -- I've 17 not memorized all the domains that are owned by 18 Amazon, but I remember that Google's third-party 19 data collection market share is -- similarly far 20 exceeds to any other company, including Amazon. 21 Q. The citations in footnotes 87 through 90 22 that you just cited are all on a website called 23 DuckDuckGo; correct? 24 A. No. 25 Q. No?</p>

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<p style="text-align: right;">Page 194</p> <p>1 A. I think you misread. This is all open</p> <p>2 source data that is available on GitHub.</p> <p>3 Q. And what is the reference to DuckDuckGo?</p> <p>4 A. So on GitHub, there are different</p> <p>5 companies that can put data. This particular open</p> <p>6 source effort is -- the tool was developed by</p> <p>7 DuckDuckGo, where they collect the data. And all</p> <p>8 the data that is collected is put on GitHub, anyone</p> <p>9 can look at it, analyze it. And the reason I</p> <p>10 mention that in the context of your question is</p> <p>11 unlike peer review --</p> <p>12 Q. You're going too fast for the reporter.</p> <p>13 A. Unlike peer-reviewed research papers,</p> <p>14 we're scientists, collect data, publish a paper and</p> <p>15 then after a few years, there is another paper that</p> <p>16 is published.</p> <p>17 This particular effort is distinct in that</p> <p>18 they periodically update the data. So you can go</p> <p>19 look at this link, you can see -- traverse the data</p> <p>20 over time.</p> <p>21 And this is the reference that I go to</p> <p>22 because I've looked at the methodology, methodology</p> <p>23 is sound, similar to what is used in peer-reviewed</p> <p>24 research, and they also periodically update the</p> <p>25 data.</p>	<p style="text-align: right;">Page 196</p> <p>1 was Search.</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Right.</p> <p>4 My question was, you believe that</p> <p>5 DuckDuckGo competes with Google in certain product</p> <p>6 lines; correct?</p> <p>7 MR. ROBINSON: Objection; form.</p> <p>8 THE WITNESS: The only example I can think of</p> <p>9 is Search right now.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. So you believe that DuckDuckGo competes</p> <p>12 with Google in certain product lines?</p> <p>13 MR. ROBINSON: Objection; form.</p> <p>14 THE WITNESS: I will rephrase that. I give you</p> <p>15 an example that DuckDuckGo competes with Google in</p> <p>16 search. I don't know if there exist other product</p> <p>17 lines.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. And given that DuckDuckGo is a competitor</p> <p>20 to Google in search, the reliability of the</p> <p>21 information is suspect?</p> <p>22 A. The data is --</p> <p>23 MR. ROBINSON: Objection; form.</p> <p>24 THE WITNESS: The data is open source. You can</p> <p>25 look at the methodology. Everything is open source.</p>
<p style="text-align: right;">Page 195</p> <p>1 Q. DuckDuckGo is a competitor to Google;</p> <p>2 correct?</p> <p>3 A. Are you asking me a legal question or a</p> <p>4 more general technical sense?</p> <p>5 Q. I'm asking you, do you consider DuckDuckGo</p> <p>6 a competitor to Google?</p> <p>7 A. Again, clarification question. Are you</p> <p>8 asking me a legal question or you want me to offer</p> <p>9 technical opinion?</p> <p>10 Q. I am asking you, sir, do you consider</p> <p>11 DuckDuckGo a competitor to Google?</p> <p>12 A. DuckDuckGo, for example, does not offer an</p> <p>13 ad exchange. DuckDuckGo offers a search engine.</p> <p>14 Google also offers a search engine.</p> <p>15 So in the context of a search engine, you</p> <p>16 could argue that -- again, not using the word in a</p> <p>17 legal sense, that DuckDuckGo has a search engine</p> <p>18 similar to Google.</p> <p>19 But DuckDuckGo, for example, does not</p> <p>20 offer an ad exchange, so in that sense, DuckDuckGo</p> <p>21 is not competing with Google.</p> <p>22 Q. So you believe that DuckDuckGo competes</p> <p>23 with Google in certain product lines?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: I think the example that I gave</p>	<p style="text-align: right;">Page 197</p> <p>1 And there is nothing suspect about the methodology</p> <p>2 of the data because it is fully transparent.</p> <p>3 Anyone, including any field experts, can go and</p> <p>4 analyze it and reproduce the results.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Have you tried to go in and reproduce the</p> <p>7 results?</p> <p>8 A. Yes. This is exactly what I was talking</p> <p>9 about when we discussed earlier that I read some</p> <p>10 sources, I spot-check them by doing my own testing.</p> <p>11 This would be one example of that.</p> <p>12 Q. Okay. Well, that's not listed in your</p> <p>13 report.</p> <p>14 So if that's something you relied upon,</p> <p>15 why haven't you listed that in your report?</p> <p>16 A. Look, I use a watch to check time. This</p> <p>17 is such a basic thing in our scholarship, that if</p> <p>18 you're looking at data collection from a web</p> <p>19 browser, you open a website and you see what data</p> <p>20 collection is happening.</p> <p>21 So this is something so basic that we</p> <p>22 teach that it is not worth mentioning, and I've</p> <p>23 explained to you the context in which I have used</p> <p>24 those.</p> <p>25 Q. How much time did you spend on looking at</p>

50 (Pages 194 - 197)



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<p style="text-align: right;">Page 198</p> <p>1 DuckDuckGo's collection?</p> <p>2 MR. ROBINSON: Objection. Instruct the witness</p> <p>3 not to answer on the basis of the expert stipulation</p> <p>4 regarding time spent on granular matters.</p> <p>5 THE WITNESS: At the instruction of counsel,</p> <p>6 I'm not going to answer your question.</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. It's just like looking at your watch, I</p> <p>9 suppose.</p> <p>10 Now, you didn't explain DuckDuckGo's</p> <p>11 methodology in your report either; correct?</p> <p>12 A. The methodology is explained in the</p> <p>13 footnote that I provide. If you go to that GitHub</p> <p>14 repo, they explain the data that is collected.</p> <p>15 Q. But they don't explain their methodology</p> <p>16 for collecting the data?</p> <p>17 A. It is on their GitHub repo. Go to</p> <p>18 GitHub --</p> <p>19 (Reporter seeks clarification.)</p> <p>20 A. Their GitHub repository or repo.</p> <p>21 Q. I want to move now to paragraph 47 of your</p> <p>22 report. You write, "To implement this change,</p> <p>23 Google prompted existing users to opt-in by means of</p> <p>24 deceptive practices - also called 'dark patterns' -</p> <p>25 which Google opted new users in by default."</p>	<p style="text-align: right;">Page 200</p> <p>1 expert to utter the word "dark patterns" in this</p> <p>2 case?</p> <p>3 A. I don't know.</p> <p>4 Q. You wouldn't be surprised, though, if that</p> <p>5 were the case; correct?</p> <p>6 A. I don't know.</p> <p>7 Q. Did you read the complaint?</p> <p>8 A. I read the complaint a long -- yes, a</p> <p>9 while ago.</p> <p>10 Q. You agree with me that the word "dark</p> <p>11 patterns" does not -- is not contained in the</p> <p>12 complaint?</p> <p>13 A. Sitting here today, I cannot recall from</p> <p>14 memory.</p> <p>15 Q. And you agree with me that your statement</p> <p>16 that Google prompted existing users to opt in by</p> <p>17 means of deceptive practices is not contained in the</p> <p>18 complaint; correct?</p> <p>19 A. I don't know. Do you want me to check?</p> <p>20 Q. I'm asking if you -- if you agree with me</p> <p>21 that it is.</p> <p>22 A. If I remember correctly, the complaint was</p> <p>23 like 2, 300 pages long. I have not memorized it, so</p> <p>24 I don't know whether the complaint explicitly</p> <p>25 mentioned the terms "dark patterns" or not.</p>
<p style="text-align: right;">Page 199</p> <p>1 Did I read that correctly?</p> <p>2 A. Yes.</p> <p>3 Q. Now, Professor Shafiq, you read all the</p> <p>4 expert reports in this case; correct?</p> <p>5 A. I have not read every single expert report</p> <p>6 in this case.</p> <p>7 Q. You relied on the expert report of Jacob</p> <p>8 Hochstetler; correct?</p> <p>9 A. That is one of the expert reports that</p> <p>10 I've relied on for a part of my opinion, yes.</p> <p>11 Q. Did you read the whole report?</p> <p>12 A. I believe I only read the part that was</p> <p>13 relevant to the opinion that I was offering in my</p> <p>14 report.</p> <p>15 Q. How did you know which part was relevant</p> <p>16 to the opinion you were offering if you didn't read</p> <p>17 the whole report?</p> <p>18 A. I did searches using keywords.</p> <p>19 Q. Okay. Did you use -- did you keyword</p> <p>20 search the word "dark patterns" on the expert</p> <p>21 reports in this case?</p> <p>22 A. Sitting here today, I do not recall</p> <p>23 whether I conducted a search based on that search</p> <p>24 term.</p> <p>25 Q. Are you aware, sir, that you're the first</p>	<p style="text-align: right;">Page 201</p> <p>1 Q. Do you know whether the complaint alleges</p> <p>2 that Google had deceptive practices to prompt</p> <p>3 existing users to opt in?</p> <p>4 A. I can't recall that. I have not memorized</p> <p>5 the complaint.</p> <p>6 Q. Turn with me to paragraph 55 of your -- of</p> <p>7 your report. In paragraph 55, you say, "After the</p> <p>8 launch of Narnia2, Google could now build more</p> <p>9 holistic or unified profiles to target users with</p> <p>10 better personalized ads."</p> <p>11 Do you see that?</p> <p>12 A. Yes.</p> <p>13 Q. Now, you haven't seen any evidence that</p> <p>14 Google actually used the information to target with</p> <p>15 personalized ads, have you?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: Can you please rephrase your</p> <p>18 question?</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. Sure.</p> <p>21 You're saying that Google could build more</p> <p>22 holistic or unified profiles, but you don't say that</p> <p>23 Google does build more holistic or unified profiles;</p> <p>24 right?</p> <p>25 A. This sentence is in the context of the</p>

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<p style="text-align: right;">Page 202</p> <p>1 previous paragraph, where I'm essentially building 2 the timeline of the motivations behind Narnia2. So 3 this was not possible before 2016. And then I'm 4 essentially building the time line that post 2016, 5 post Narnia2, Google could now. 6 And then the answer to your question is 7 yes, Google today does build holistic or unified 8 profile of users based on the data that Google 9 collects from Google owned and operated websites and 10 products as well as non-Google websites. 11 Q. What is your evidence of that? 12 A. I cite a lot of documents in my report. 13 Do you want me to . . . 14 Q. Yes, I would like to know what is your 15 evidence that Google does build holistic and unified 16 profiles to target users with better personalized 17 ads? 18 A. Let's start off with where we left off, 19 paragraph 55. Right after paragraph 55, you will 20 see that there is Figure 5. Figure 5 is one example 21 that I think nicely visually illustrates the 22 holistic profiles that Google creates by combining 23 data from various products and services. 24 If you look at Figure 5, it explains 25 Google combines the search history data that it</p>	<p style="text-align: right;">Page 204</p> <p>1 (Reporter seeks clarification.) 2 A. Web &amp; App Activity. 3 That is website or a service that Google 4 has where a Google account holder can see 5 information that Google has collected from various 6 Google products and services, including data that 7 Google collects from, for example, similar to 8 Figure 5, Google Search as well as location data 9 from Google Maps as well as third-party data that 10 Google collects. 11 Q. I understand, Dr. Shafiq, that you're 12 saying Google collects this data. 13 My question to you is, where is your 14 evidence that Google is using the data to target 15 ads? 16 A. This is described in that portal, again, 17 Web &amp; App Activity and other things that -- this was 18 discussed much more in depth when Dr. Hoffman 19 describes various -- I'm forgetting the term she 20 uses -- the controls that Google provides to 21 consumers. 22 Q. Where in your report is the evidence, not 23 that Google could build holistic and unified 24 profiles, but it does? Where in your report is the 25 evidence?</p>
<p style="text-align: right;">Page 203</p> <p>1 collects from Google Search, combines it with 2 location history information, combines it with data 3 that it collects as a third party from apps and uses 4 that to target consumers, and in this particular 5 example, for consumers who are in market for 6 minivans. 7 Q. Your citation to Figure 5 is a 8 footnote 135, a Google internal presentation from 9 December 14, 2016. 10 Do you see that? 11 A. Yes. 12 Q. And that is showing that it is possible 13 for Google to build more holistic and unified 14 profiles to target users with ads. 15 I'm asking you, sir, where is your 16 evidence that Google is actually doing this? Not 17 that it's possible, I want to know the evidence that 18 it's doing it. 19 A. This is consistent with all the other 20 documents that I've cited in my report and other 21 evidence I've looked at. 22 For example, I -- Google has this thing 23 that I think Dr. Hoffman discusses later on that I 24 describe in my section is what is called Web &amp; App 25 Activity.</p>	<p style="text-align: right;">Page 205</p> <p>1 MR. ROBINSON: Objection; form. 2 (Witness reviews document.) 3 THE WITNESS: Let me give you one more example. 4 That example is . . . 5 So I will start noting them down. One of 6 them is footnote 171. Another one is footnote 183. 7 Another one is -- there's a research paper. 8 Another paper is, yes, I believe either 9 footnote 209 or 210, where they look at that exact 10 thing that I describe to you, where Google shows how 11 they collect and combine data from various Google 12 products and services, including data that Google 13 collects from Google owned and operating websites 14 and products, as well as the data that Google 15 collects from non-Google websites and then uses it 16 to identify users' interests, including their 17 demographic information, and then uses it for 18 targeted ads. 19 BY MS. KLEIN: 20 Q. You agree with me, sir, that Google 21 explains their policies online? 22 MR. ROBINSON: Objection; form. 23 THE WITNESS: Can you please clarify which 24 policies are you referring to? Because Google, I'm 25 sure, has a lot of policies.</p>

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<p style="text-align: right;">Page 206</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Sure.</p> <p>3 For example, on footnote 171, Google Help,</p> <p>4 it explains, [as read] "Find and control your web</p> <p>5 activity."</p> <p>6 A. Yes.</p> <p>7 Q. So Google explains its policies with</p> <p>8 respect to how it's using data on the web in that</p> <p>9 document?</p> <p>10 A. I will need to look at that document if</p> <p>11 you can provide it to me because I've not memorized</p> <p>12 that document.</p> <p>13 Q. Well, if you haven't memorized the</p> <p>14 document, how can you say that it provides evidence</p> <p>15 of how Google uses information to target ads?</p> <p>16 Because this doesn't say "target ads" in</p> <p>17 footnote 71 -- 171.</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. So you can remember for part of it but not</p> <p>21 all of it?</p> <p>22 A. Yes, I remember the part of it that is</p> <p>23 relevant to --</p> <p>24 (Reporter seeks clarification.)</p> <p>25 Q. I'm sorry, sir, you didn't answer my</p>	<p style="text-align: right;">Page 208</p> <p>1 Center, where --</p> <p>2 (Reporter seeks clarification.)</p> <p>3 THE WITNESS: Yes.</p> <p>4 I believe it was called something</p> <p>5 different. I recently looked at it. Google has</p> <p>6 changed the name and branding of that page -- where</p> <p>7 Google shows, based on all the information that</p> <p>8 Google collects from consumers, how Google uses that</p> <p>9 to infer demographic information, other interests of</p> <p>10 a consumer that are used to target ads.</p> <p>11 And Google, in fact, also shows at that</p> <p>12 place, I think, a subset of ads that Google shows to</p> <p>13 consumers based on those demographic and other</p> <p>14 interests and attributes that are inferred by</p> <p>15 Google.</p> <p>16 MS. KLEIN: Object as nonresponsive and move to</p> <p>17 strike.</p> <p>18 MR. ROBINSON: I will note for the record that</p> <p>19 counsel asked an open-ended question about providing</p> <p>20 evidence --</p> <p>21 (Reporter seeks clarification.)</p> <p>22 MS. KLEIN: Sir, you really need to stop.</p> <p>23 (Cross-talk.)</p> <p>24 MS. KLEIN: No, you cannot put this on the</p> <p>25 record, sir. It's inappropriate. You're only</p>
<p style="text-align: right;">Page 207</p> <p>1 question. If you have -- if you haven't memorized</p> <p>2 the document, how can you say it provides evidence</p> <p>3 to support your opinions but you just don't remember</p> <p>4 it when I cross-examine you --</p> <p>5 MR. ROBINSON: Objection.</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. -- on a different part?</p> <p>8 MR. ROBINSON: Objection; form.</p> <p>9 THE WITNESS: That document describes Web &amp; App</p> <p>10 Activity, so I know it is -- so the way I would</p> <p>11 suggest you to think about this, and this is</p> <p>12 accurate based on all the evidence and analysis that</p> <p>13 I've done. The data that Google collects post</p> <p>14 Narnia2, all of that data gets connected to a</p> <p>15 Google's -- a user's Google account, what is</p> <p>16 internally called Gaia ID.</p> <p>17 So at this website, Google shows users</p> <p>18 their data that Google collects from various Google</p> <p>19 products and services, including the data Google</p> <p>20 collects as a first party, the data Google collects</p> <p>21 as a second party, and data that Google collects as</p> <p>22 a third party.</p> <p>23 And then all of that data is fed into</p> <p>24 advertising systems where there is a separate page,</p> <p>25 which I believe now is rebranded to be called My Ad</p>	<p style="text-align: right;">Page 209</p> <p>1 allowed to say, "Objection; form." I made my</p> <p>2 objection, and I did not ask you to rule on it.</p> <p>3 MR. ROBINSON: Okay. I see I'm the only one</p> <p>4 trying to appreciate the court reporter's time</p> <p>5 without cross-speaking.</p> <p>6 I would just briefly say that counsel</p> <p>7 asked an open-ended question and got a open-ended</p> <p>8 response.</p> <p>9 (Deposition Exhibit 12 was marked.)</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. Dr. Shafiq, I've put in front of you</p> <p>12 what's been marked as Shafiq Exhibit 12.</p> <p>13 Is this a document that you reviewed and</p> <p>14 considered in your report?</p> <p>15 A. I have some clarification questions about</p> <p>16 this document. There are some things that I do not</p> <p>17 understand.</p> <p>18 Q. I only asked you, Dr. Shafiq, if this</p> <p>19 document, Exhibit 12, is a document that you</p> <p>20 reviewed and considered in rendering your opinions</p> <p>21 in this case? Yes or no?</p> <p>22 A. I need to know the veracity of this</p> <p>23 document. Is this a document that I cited in my</p> <p>24 report or is this a document that you have created?</p> <p>25 Can you please tell me whether this is your created</p>

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<p style="text-align: right;">Page 210</p> <p>1 document or if this is a document that I have 2 created? 3 Q. This is a document, if you look at the 4 bottom left, that's available from the web at 5 <a href="https://myadcenter.google.com/personalizationoff">https://myadcenter.google.com/personalizationoff</a>. 6 It is publicly available, sir. 7 A. Can you please answer my question that -- 8 whether or not this document was created by you? 9 Q. No, sir, this document was created by 10 Google and is available on the web. And as an 11 expert in the industry, I would assume that you 12 would know where Google's representations as to how 13 to control ads would be. 14 Did -- is Exhibit 12 a document you 15 reviewed and considered in rendering the opinions in 16 your report, yes or no? 17 A. The document that you have put in front of 18 me, this is not a document that is -- I believe I 19 created because if you see at the top right, this is 20 a document that represents what this page looks like 21 inside a person's Google account. 22 I know what my Google account is. It 23 probably would have said "Z." Since this is saying 24 "L," I know that this is not the version of the page 25 that I see.</p>	<p style="text-align: right;">Page 212</p> <p>1 says "L" and then there is a setting for 2 personalized ads that is turned off, so clearly 3 someone went to this page -- not -- it's not a 4 public-facing page -- using their personal Google 5 account, did some actions to create this version of 6 the web page. 7 BY MS. KLEIN: 8 Q. Sir, have you ever visited 9 <a href="https://myadcenter.google.com/">https://myadcenter.google.com/</a>? 10 A. Yes. 11 Q. And when is the last time you accessed 12 that website? 13 A. I can't perfectly recall from memory, but 14 if I have to guess, probably a couple of weeks ago. 15 Q. And have you turned off the 16 personalization on your ads? 17 A. I conduct research on this topic. I don't 18 remember because I play around with these controls 19 to study their effectiveness. 20 My understanding is that the setting was 21 by default turned on. I don't believe I have turned 22 it off. 23 Q. And you haven't recently looked to see 24 what comes up if you turn off the personalization? 25 MR. ROBINSON: Objection; form.</p>
<p style="text-align: right;">Page 211</p> <p>1 So I want you to simply be honest and 2 explain to me whether or not this is something that 3 you created from your personal Google account and 4 what, if any, settings you changed to get to this 5 page that you are sending. 6 Q. Sir, I'm saying this is available on the 7 Internet and -- 8 A. This is not available publicly on the 9 Internet. 10 Q. No. All I asked you is, is this a 11 document that you considered when rendering the 12 opinions in your report, yes or no? 13 A. I do not recognize parts of this document, 14 hence I'm hesitant to answer this question. 15 Q. So the answer's no, you did not consider 16 this document in rendering the opinions in your 17 report? 18 A. This is not what I said. 19 MR. ROBINSON: Objection; form. 20 BY MS. KLEIN: 21 Q. If you don't recognize the document, how 22 could you have considered it? 23 MR. ROBINSON: Objection; form. 24 THE WITNESS: I don't recognize part of the 25 document. For example, at the top right, where it</p>	<p style="text-align: right;">Page 213</p> <p>1 THE WITNESS: Sitting here today, from memory, 2 I do not recall. 3 BY MS. KLEIN: 4 Q. Do you have any reason to dispute that you 5 can turn off personalization by going to 6 <a href="https://myadcenter.google.com">https://myadcenter.google.com</a> [sic]? 7 A. I'm aware of the setting that exists on 8 this page, where the control purports to allow a 9 user to turn off personalized ads. 10 Q. And as you see on the left side of the 11 page, it says, [as read] "Control over your info. 12 See what info Google uses to show you ads. You can 13 turn off anything you don't want used to personalize 14 your ads." 15 Do you see that? 16 A. Where are you reading from? 17 Q. On the left side of the page on 18 Exhibit 12, underneath the woman who's sitting back 19 in the chair with her hands behind her head. 20 Do you see it says, "Control over your 21 info"? 22 A. Yes. I think this is referring to the 23 Web &amp; App Activity -- 24 (Reporter seeks clarification.) 25 A. -- that we discussed earlier.</p>

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<p style="text-align: right;">Page 214</p> <p>1 Q. And it says, [as read] "You can turn off 2 anything you don't want used to personalize your 3 ads"; correct? 4 A. This document states, "You can turn off 5 anything you don't want used to personalize your 6 ads." 7 Q. Right. 8 You agree that users can turn off anything 9 they don't want used to personalize their ads? 10 MR. ROBINSON: Objection; form. 11 THE WITNESS: This is not something that I've 12 investigated as part of my assignment in this case. 13 There is some research out there that casts doubt as 14 to the effectiveness of these controls that even 15 when users exercise them, whether or not that 16 actually makes a difference. 17 But this is not something that I 18 specifically investigated for the purposes of this 19 report, hence I cannot reliably answer your question 20 yes or no. 21 BY MS. KLEIN: 22 Q. Do you agree with me, Dr. Shafiq, that 23 Google offers controls to users to specifically opt 24 out of the sale of their data through RTB? 25 A. Can you point me to the control that you</p>	<p style="text-align: right;">Page 216</p> <p>1 There is some information that seems to be redacted 2 or has been cut off. 3 Q. It's just the way my printer worked. 4 A. But can you tell me what is the 5 information that is not shown on the pages? 6 Q. There's nothing that's not shown on the 7 pages. It's just the formatting is not great. 8 A. But there's clearly some information at 9 the top right that is not complete. 10 Q. Why don't we just focus less on the 11 document itself. 12 Dr. Shafiq, as part of your development of 13 your opinions in this case, did you go visit 14 <a href="https://safety.google/privacy/adsanddata/">https://safety.google/privacy/adsanddata/</a> [sic]? 15 Did you visit that website as part of your 16 formulation of your opinions? 17 A. I'm having a hard time understanding this 18 document because I am -- is this all part of the 19 same document? And how do different pages relate to 20 each other? 21 Q. I'm asking not about the document, sir. 22 I'm asking, you're aware that Google has a 23 Safety Center online? You're a privacy research 24 expert. You are aware that Google has a Safety 25 Center online; right?</p>
<p style="text-align: right;">Page 215</p> <p>1 are referring to? 2 Q. Paragraph 12 -- or Shafiq Exhibit 12, 3 doesn't this indicate that Google allows users to 4 specifically opt out of the sale of data through 5 RTB? 6 A. Where does it say that? I think you're 7 reading from some -- I don't see those words in this 8 page. 9 Q. It says, [as read] "You can turn off 10 anything you don't want used to personalize your 11 ads." 12 A. Now you're saying different words. 13 Q. So just because the words aren't the same 14 you won't agree with me; right? 15 A. Words matter. If words are different, the 16 meaning of the words changes. 17 (Deposition Exhibit 13 was marked.) 18 BY MS. KLEIN: 19 Q. Dr. Shafiq, I've put in front of you 20 what's been marked as Shafiq Exhibit 13. 21 This is a document that was accessed on 22 October 7th, 2024 at 2:22 p.m. from 23 <a href="https://safety.google/privacy/adsanddata/">https://safety.google/privacy/adsanddata/</a> [sic]. 24 Do you see that? 25 A. I have some concerns about the document.</p>	<p style="text-align: right;">Page 217</p> <p>1 Sir, I'm not talking about the document 2 anymore. You can put it aside. 3 MR. ROBINSON: Objection; form. 4 BY MS. KLEIN: 5 Q. Sir, will you pay attention to me, please? 6 A. Please give me a second. 7 Q. I'm not asking about the document anymore. 8 Now you're just taking time on the record. 9 A. Can you please rephrase the question? 10 Q. I will reask the question. 11 The question is, did you go -- you are 12 aware that Google maintains on its website a Safety 13 Center; correct? 14 A. I believe so. 15 Q. Okay. And did you go visit the Safety 16 Center as part of formulating your opinions in this 17 report? 18 A. I will have to take a look at my report. 19 I've not memorized whether this is something that I 20 specifically discussed. 21 Q. Go for it. 22 (Witness reviews document.) 23 A. Yes, I believe I cite this -- 24 (Reporter seeks clarification.) 25 A. I believe I cite this document.</p>

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<p style="text-align: right;">Page 218</p> <p>1 Q. Where did you cite the document in your 2 report?</p> <p>3 A. One of the places where I cite this 4 document is 185, where we are -- I'm citing this 5 document in the context of the promise that Google 6 makes to consumers that we never sell your personal 7 information to anyone.</p> <p>8 Q. And did you also consider that as part of 9 the Safety Center, Google has an area where you can 10 restrict privacy controls?</p> <p>11 A. Like I describe in different parts of my 12 report, Google's privacy controls are riddled with 13 dark patterns.</p> <p>14 (Reporter seeks clarification.)</p> <p>15 A. This is the document that I believe I 16 cite -- yes, that I cite in my report where Google 17 is making some general promises or representations 18 to consumers.</p> <p>19 For example, I cite that on this link, 20 Google makes a promise -- or Google makes a 21 disclosure to consumers that we never sell your 22 personal information to anyone.</p> <p>23 MS. KLEIN: Objection; nonresponsive and move 24 to strike.</p> <p>25 BY MS. KLEIN:</p>	<p style="text-align: right;">Page 220</p> <p>1 Q. And right below it, it says, "Can I turn 2 off personal ads completely?"</p> <p>3 Do you see that?</p> <p>4 A. Yes.</p> <p>5 Q. And it says, "Yes. You can visit My Ad 6 Center to update your preferences or turn off ads 7 personalization."</p> <p>8 Do you see that?</p> <p>9 A. Yes.</p> <p>10 Q. Do you agree with me that Google tells 11 consumers and end users that they can turn off 12 personalized ads completely?</p> <p>13 A. This is similar to the My Ad Center 14 discussion we had earlier. This is -- would be a 15 classic example of a case where the disclosure is on 16 page -- at the bottom, roughly, page 16 of 21 of a 17 long document.</p> <p>18 MS. KLEIN: Objection; nonresponsive and move 19 to strike.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. Dr. Shafiq, do you agree with me that 22 Google tells end users that they can turn off 23 personalized ads completely, yes or no?</p> <p>24 Do you need me to repeat the question?</p> <p>25 A. Sure.</p>
<p style="text-align: right;">Page 219</p> <p>1 Q. Dr. Shafiq, did you also consider that as 2 part of the Safety Center, Google has an area where 3 you can go and restrict privacy controls, yes or no?</p> <p>4 A. Yes. Those are the controls that I 5 describe in early part of my report, where I explain 6 that those controls are riddled with dark patterns.</p> <p>7 MS. KLEIN: Objection; nonresponsive after the 8 word "yes" and move to strike.</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. If you turn with me to page 16 of 11 Exhibit 13, please.</p> <p>12 A. Now you want me to look at the exhibit?</p> <p>13 Q. Yes, you just said "this document," so I 14 want to turn to page 16 of Exhibit 13.</p> <p>15 A. I'm only comfortable talking about the URL 16 because this document is missing a lot of 17 information, including, for example, the exact quote 18 that I provide in my report, and I'm really 19 concerned because I cannot see that quote. And I 20 know for a fact that that quote exists somewhere.</p> <p>21 Q. Turn with me to page 16, please, sir.</p> <p>22 There's your quote, right, sir, "We never sell your 23 personal information to anyone."</p> <p>24 Do you see that?</p> <p>25 A. Yes, I see that quote.</p>	<p style="text-align: right;">Page 221</p> <p>1 Q. Do you agree with me that Google tells end 2 users they can turn off personalized ads completely, 3 yes or no?</p> <p>4 A. As we are looking at this document, this 5 document states at the bottom, page 16 of 21, 6 there's a question, Can I turn off personalized ads 7 completely?</p> <p>8 There is a statement that is made here and 9 it points to My Ad Center, which is the control that 10 we talked about earlier.</p> <p>11 Q. And if you go back to Exhibit Shafiq 12, 12 there's My Ad Center; correct? Exhibit 12, the 13 single page.</p> <p>14 A. So again, I don't think this is My Ad 15 Center. This is a specific subpage on My Ad Center.</p> <p>16 Q. And do you see on the right of the My Ad 17 Center it says personalized ads and there's a toggle 18 switch, on and off?</p> <p>19 A. Yes.</p> <p>20 Q. And is there that toggle switch on your 21 personalized ad center when you go visit it, sir, in 22 your Gmail account?</p> <p>23 A. I believe so, but it is not off by 24 default.</p> <p>25 Q. But you can easily toggle it on and off on</p>

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<p>1 the right-hand side if you like?</p> <p>2 A. No, I would not agree with that statement.</p> <p>3 I explain, for example, in my report that the way</p> <p>4 privacy controls are set up, it is far easier for</p> <p>5 consumers to . . .</p> <p>6 Google uses dark patterns to manipulate</p> <p>7 users into sharing data, but then it is far more</p> <p>8 cumbersome for consumers, for example, if we look at</p> <p>9 the document, the need to scroll all the way down to</p> <p>10 page 16 of 21, find that link, click on that link,</p> <p>11 and then after several clicks and scrolls, get to a</p> <p>12 point where they can turn that setting off.</p> <p>13 MS. KLEIN: Objection; nonresponsive and move</p> <p>14 to strike.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. My question to you, sir, is, if you are on</p> <p>17 the page that is Shafiq Exhibit 12, it's easy to</p> <p>18 toggle the switch on the page on and off; correct?</p> <p>19 It's a "yes" or "no," with a down click arrow.</p> <p>20 That's easy for someone to do; right?</p> <p>21 MR. ROBINSON: Objection; form.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. That one action?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: Like I said earlier, finding this</p>	<p>1 If nobody ever gets to this center on page</p> <p>2 16 that would take them to the Safety Center or the</p> <p>3 My Ad Center, they would never see the</p> <p>4 representation that's on page 185 either, would</p> <p>5 they? Footnote 185.</p> <p>6 A. Yeah, this is where I believe the document</p> <p>7 that you have printed -- I'm not sure whether it</p> <p>8 contains everything that you see on the page and</p> <p>9 how. So I don't want to speak to the printout that</p> <p>10 you have presented to me and I've not memorized what</p> <p>11 that page looks like.</p> <p>12 Q. Irrespective of the printout and the page,</p> <p>13 if the statement "We never sell your information" --</p> <p>14 excuse me. Start over.</p> <p>15 If the statement, "We never sell your</p> <p>16 personal information to anyone" that you find</p> <p>17 offensive is on the same page that talks about how</p> <p>18 you can turn off your ad preferences, if no one ever</p> <p>19 sees the page of how you can turn off your ad</p> <p>20 preferences, then no one ever sees the</p> <p>21 representations that Google doesn't sell your</p> <p>22 personal information; right?</p> <p>23 MR. ROBINSON: Objection; form.</p> <p>24 THE WITNESS: I would have to look at that</p> <p>25 page. It is my recollection that the representation</p>
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<p>1 page is hard for consumers. Like you showed me in</p> <p>2 the previous document, it shows you need to scroll</p> <p>3 all the way down to page 16 of 21 to find the link,</p> <p>4 and then once a user comes here, that's when you get</p> <p>5 to this page.</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. When's the last time you visited</p> <p>8 safety.Google/privacy/adsanddata?</p> <p>9 A. Which link are you referring to? Like</p> <p>10 this is one of the documents?</p> <p>11 Q. I'm not referring to a link. I'm just</p> <p>12 referring to a website.</p> <p>13 When is the last time you visited the</p> <p>14 Safety Center for Google?</p> <p>15 A. Sitting here from memory, I cannot recall.</p> <p>16 Q. You didn't bother to do that in developing</p> <p>17 your opinions in this case?</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 THE WITNESS: I thought we discussed that I</p> <p>20 looked at that, but I cannot recall exactly when I</p> <p>21 did that.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. And you looked at it in paragraph -- in</p> <p>24 footnote 185 with respect to the representation that</p> <p>25 you allege that's on page 16.</p>	<p>1 that we do not sell your personal information and</p> <p>2 variations of this statement appear prominently much</p> <p>3 higher, either in this page or other page, but I've</p> <p>4 not memorized.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. But you agree with me if the statements</p> <p>7 are together in the Safety Center, then people</p> <p>8 either see them both or they see none of them;</p> <p>9 correct?</p> <p>10 A. I did not conduct that study about the</p> <p>11 layout of the page and where they appear side by</p> <p>12 side or not.</p> <p>13 Q. I'm not asking you to conduct a study.</p> <p>14 I'm asking you to assume that if the statements are</p> <p>15 next to each other, either people see both</p> <p>16 statements or they see neither statements; correct?</p> <p>17 I'm not referring to the document, sir.</p> <p>18 I'm just asking you to assume with me. Assume for</p> <p>19 the purposes of this discussion that those two</p> <p>20 statements appear next to each other. One, we never</p> <p>21 sell your personal information to anyone, and then</p> <p>22 the instructions on how to turn off personalized</p> <p>23 ads.</p> <p>24 If those two appear next to each other,</p> <p>25 either end users see them both or they don't see</p>

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<p style="text-align: right;">Page 226</p> <p>1 either; correct?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: It depends how those statements</p> <p>4 are put together.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. But if they're right next to each other,</p> <p>7 end users either see them both or they see neither;</p> <p>8 right?</p> <p>9 A. Need to see what you mean by they are</p> <p>10 right next to each other. Does a user have to click</p> <p>11 to actually see what is the answer to that question</p> <p>12 or is this something that is just available there?</p> <p>13 Q. I'm saying they're on a web page right</p> <p>14 next to each other.</p> <p>15 A. In the hypothetical that you are</p> <p>16 presenting to me, if there are two statements where</p> <p>17 one statement -- two statements in the same</p> <p>18 paragraph right after each other, then those two</p> <p>19 statements go together.</p> <p>20 It is likely that the first statement that</p> <p>21 a user sees, a user will be likely to see that, and</p> <p>22 then there's a chance whether or not a user sees the</p> <p>23 second statement.</p> <p>24 Q. It's likely that they see both statements</p> <p>25 if they appear next to each other on a page;</p>	<p style="text-align: right;">Page 228</p> <p>1 Are you aware that Google offers a privacy</p> <p>2 control specifically geared toward RTB?</p> <p>3 A. Can you please point me to any -- should I</p> <p>4 be looking at my report?</p> <p>5 Q. I was just asking you if you're aware that</p> <p>6 Google, in fact, offers a privacy control that is</p> <p>7 specifically geared toward RTB.</p> <p>8 A. It is my understanding, based on all the</p> <p>9 evidence that I've looked at, is there is no control</p> <p>10 that completely stops sharing of data in RTB.</p> <p>11 Q. That wasn't my question, though.</p> <p>12 My question to you, sir, was, are you</p> <p>13 aware that Google offers a privacy control that is</p> <p>14 specifically geared toward RTB?</p> <p>15 A. I have not seen such a control.</p> <p>16 Q. Have you looked?</p> <p>17 A. I have looked. To the best of my</p> <p>18 knowledge, there is no control that completely stops</p> <p>19 real-time bidding.</p> <p>20 Q. Not stops real-time bidding, but stops</p> <p>21 sharing of data through real-time bidding.</p> <p>22 A. Your statement is a little vague, what you</p> <p>23 mean by data. So we'll need to look at the details</p> <p>24 to be able to answer your question.</p> <p>25 Q. Sharing of user data.</p>
<p style="text-align: right;">Page 227</p> <p>1 correct?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: Partially yes, and the caveat</p> <p>4 here is user will likely see the first statement and</p> <p>5 it is possible that user does not go on to see the</p> <p>6 second statement.</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. But it's possible that they do; correct?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: I don't know.</p> <p>11 Can we take a break?</p> <p>12 MS. KLEIN: Sure.</p> <p>13 THE VIDEOGRAPHER: We're going off the record.</p> <p>14 The time is 4:38.</p> <p>15 (Recess taken.)</p> <p>16 THE VIDEOGRAPHER: We're back on the record.</p> <p>17 The time is 4:54.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. Dr. Shafiq, we're back on the record after</p> <p>20 a short break.</p> <p>21 Is there anything you want to change or</p> <p>22 clarify about your testimony?</p> <p>23 A. No.</p> <p>24 Q. We were talking about privacy controls</p> <p>25 before the last break.</p>	<p style="text-align: right;">Page 229</p> <p>1 Are you aware that Google offers a control</p> <p>2 that's geared to stop sharing user data through RTB?</p> <p>3 A. I've looked at various controls that</p> <p>4 Google offers. Based on all the evidence that I've</p> <p>5 seen, testing my analysis, I don't believe there</p> <p>6 exists currently a control that completely stops</p> <p>7 sharing of user data in real-time bidding.</p> <p>8 Q. Well, now, you didn't perform any testing;</p> <p>9 right?</p> <p>10 A. I looked at all the evidence, all the</p> <p>11 documentation, different research papers, the</p> <p>12 testing that they have done. I have not seen any</p> <p>13 control that completely stops sharing of user data</p> <p>14 in real-time bidding.</p> <p>15 Q. You have not done any testing on the</p> <p>16 system yourself; correct?</p> <p>17 A. Which system are we talking about?</p> <p>18 Q. On real-time bidding, you have not done</p> <p>19 any testing on Google's systems on real-time bidding</p> <p>20 yourself?</p> <p>21 A. I don't have access to Google systems like</p> <p>22 we discussed.</p> <p>23 Q. But you have the skill and expertise to</p> <p>24 conduct that testing if you had access to the</p> <p>25 system; right?</p>

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<p style="text-align: right;">Page 230</p> <p>1 A. I have looked at various controls and I</p> <p>2 have not come across any control that stops</p> <p>3 transmission of user data in real-time bidding.</p> <p>4 Q. That's not my question. I understand you</p> <p>5 looked at publicly available information and</p> <p>6 peer-reviewed publications on the document set in</p> <p>7 your report.</p> <p>8 My question to you, sir, is, you have a</p> <p>9 Ph.D. in computer science and you have a lab, if</p> <p>10 someone gave you access to Google's system, you have</p> <p>11 the ability to perform testing to understand whether</p> <p>12 or not Google has a control that precludes user data</p> <p>13 from being shared through RTB; right?</p> <p>14 MR. ROBINSON: Objection; form.</p> <p>15 THE WITNESS: And my answer to your question is</p> <p>16 that is not possible, because to the best of my</p> <p>17 knowledge, that control does not exist.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. But you haven't tested to see if the</p> <p>20 control exists. You have the ability to test, see</p> <p>21 if the control exists; correct?</p> <p>22 A. Let me try to explain it in more plain</p> <p>23 words.</p> <p>24 Q. No, sir.</p> <p>25 A. Can I please complete my answer?</p>	<p style="text-align: right;">Page 232</p> <p>1 Q. And you run a research lab; correct?</p> <p>2 A. That's correct.</p> <p>3 Q. And you run research on systems to</p> <p>4 understand how data is collected. Yes?</p> <p>5 A. Yes.</p> <p>6 Q. And you have the ability, if someone gave</p> <p>7 you access to Google's systems, to understand how</p> <p>8 Google scientifically collects data; right?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: I do not understand that</p> <p>11 question. Can you please rephrase what you mean by</p> <p>12 "scientifically collect data"?</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. You have the ability to understand what</p> <p>15 data Google collects if you just had access to its</p> <p>16 system; correct?</p> <p>17 MR. ROBINSON: Objection; form.</p> <p>18 THE WITNESS: I will need to know more about</p> <p>19 what specific system you're talking about before I</p> <p>20 give you an answer.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. How about this, you have opinions</p> <p>23 throughout your report related to real-time bidding;</p> <p>24 correct?</p> <p>25 A. That's correct.</p>
<p style="text-align: right;">Page 231</p> <p>1 Q. No, sir. I don't want an explanation. I</p> <p>2 want an answer to my question.</p> <p>3 You have the ability, you are a skilled</p> <p>4 computer scientist, that if someone gave you access</p> <p>5 to Google's system, you could test and see whether</p> <p>6 there is an RTB control to turn off the sharing of</p> <p>7 user data, yes or no? You have that skill, yes or</p> <p>8 no?</p> <p>9 A. I have not seen such a control.</p> <p>10 Q. I'm not asking what you've seen, sir. I'm</p> <p>11 telling you -- I'm asking you, if someone gave you</p> <p>12 access to Google's systems, you have the ability to</p> <p>13 test to see if the control exists; correct?</p> <p>14 A. Can you give me --</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 THE WITNESS: Can you give me more details</p> <p>17 about which Google system are you talking about?</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. No, sir, I cannot, because you know</p> <p>20 exactly what I'm talking about and you're trying to</p> <p>21 avoid answering my question because you know the</p> <p>22 answer is yes.</p> <p>23 You are a computer scientist, sir;</p> <p>24 correct?</p> <p>25 A. I am a computer scientist.</p>	<p style="text-align: right;">Page 233</p> <p>1 Q. What systems do they run on?</p> <p>2 A. This was not part of my assignment. I</p> <p>3 believe another expert goes into the details of the</p> <p>4 exact internal systems which run Google's options,</p> <p>5 including real-time bidding.</p> <p>6 Q. So if you don't know what systems they're</p> <p>7 on, how is your report at all reliable?</p> <p>8 MR. ROBINSON: Objection --</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. If you're saying that they use data on</p> <p>11 RTB, you don't know what systems RTB is used on?</p> <p>12 MR. ROBINSON: Objection; form.</p> <p>13 THE WITNESS: I have not memorized everything</p> <p>14 in this case. In my report, for the purposes of my</p> <p>15 report, I was given a specific assignment. I looked</p> <p>16 at all the evidence, including Google's public</p> <p>17 documentation, the controls that Google provides to</p> <p>18 consumers, and so on. And the evidence that I cite</p> <p>19 to support my opinions are sufficient to support</p> <p>20 those opinions.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Right.</p> <p>23 And my question to you is, if the</p> <p>24 plaintiffs had come to you and said, we would like</p> <p>25 you to test to see if RTB has a control that allows</p>

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<p style="text-align: right;">Page 234</p> <p>1 Google to turn off the sharing of user data, you  2 could do that; right? That wasn't your assignment,  3 but you could do it?  4 MR. ROBINSON: Objection; form.  5 THE WITNESS: It is hard for me to answer your  6 hypothetical without knowing more details about  7 which system you are talking about. If you put  8 me -- in front of me a document that describes some  9 systems, I'm happy to take a look and try to  10 reliably answer your question.  11 BY MS. KLEIN:  12 Q. Your report cites to AdMob.  13 Do you remember the system called AdMob?  14 A. Yes.  15 Q. And AdMob relates to mobile apps; correct?  16 A. That's correct.  17 Q. And does RTB run on AdMob?  18 A. I believe so. But sitting here today, I  19 do not perfectly recall from memory, but likely,  20 yes.  21 Q. And therefore, if someone gave you access  22 to source code for AdMob, you could understand  23 whether there was a control that would allow Google  24 to turn off the sharing of user data in that  25 program?</p>	<p style="text-align: right;">Page 236</p> <p>1 Q. You testified earlier that you could read  2 source code. Now you're backtracking on that?  3 A. You're going to ask me about some  4 hypothetical system. In general, computer  5 scientists are trained to understand source code,  6 but in creating of that source code and the analysis  7 that needs to be performed depends on the context of  8 what system we are talking about and so on.  9 Q. As you sit here today, you haven't looked  10 at AdMob to understand that whether AdMob actually  11 uses real-time bidding; right? You, yourself, have  12 not looked at AdMob to understand that AdMob uses or  13 doesn't use real-time bidding; right?  14 A. That was not my answer earlier. I think  15 my answer was I don't recall 100 percent from  16 memory, but if I remember correctly, Google also has  17 real-time bidding in mobile apps, which I believe is  18 through AdMob.  19 Q. But you only know that from peer-reviewed  20 publications, not from actually looking at the code;  21 right?  22 A. I've looked at the documentation that I  23 cite extensively in that section of my report.  24 Q. But not an actual Google source code  25 that's not available on open source?</p>
<p style="text-align: right;">Page 235</p> <p>1 A. I mean, whatever hypothetical control and  2 hypothetical system you're talking about, if you  3 show me that document, or the name of that  4 hypothetical control, then I can answer your  5 question. Otherwise, in this hypothetical world, it  6 is hard for me to answer your questions.  7 MS. KLEIN: Objection; nonresponsive and move  8 to strike.  9 BY MS. KLEIN:  10 Q. Sir, I think you understand what I'm  11 saying, and I think you don't want to answer in the  12 affirmative.  13 Because you're a computer scientist and  14 you can look at source code; right?  15 MR. ROBINSON: Objection to the counsel's  16 testimony before the question.  17 BY MS. KLEIN:  18 Q. You can look at source code; right?  19 A. Anyone can look at source code.  20 Q. Do you read source code and understand it?  21 A. It depends on what source code we are  22 talking about.  23 Q. Can you read Google source code?  24 A. Which Google source code? It's a very  25 general term that you are stating.</p>	<p style="text-align: right;">Page 237</p> <p>1 A. Google's description of what real-time  2 bidding is, how it works, which data field it  3 contains, which controls exist, those are all  4 described in the documents that I cite in my report.  5 Unless Google is lying in those documents.  6 There is no reason to believe. You don't need  7 anything else to reach the conclusions that I reach  8 in my report.  9 MS. KLEIN: Objection; nonresponsive and move  10 to strike.  11 BY MS. KLEIN:  12 Q. You haven't looked at the Google source  13 code for AdMob; correct?  14 A. That's correct.  15 Q. You haven't looked at the Google source  16 code for AdSense; correct?  17 A. That's correct.  18 Q. You haven't looked at the Google source  19 code for AdManager; correct?  20 A. That's correct.  21 Q. So you don't know whether those programs  22 offer the ability to turn off the sharing of user  23 data; correct? You just don't know?  24 MR. ROBINSON: Objection; form.  25 THE WITNESS: Can you please rephrase your</p>



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<p style="text-align: right;">Page 238</p> <p>1 question?</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. You don't know, as you sit here today,</p> <p>4 whether AdManager offers the ability to turn off the</p> <p>5 sharing of user data?</p> <p>6 MR. ROBINSON: Objection; form.</p> <p>7 THE WITNESS: I've looked at the documentation</p> <p>8 of real-time bidding and I've looked at various</p> <p>9 controls that it offers and to my understanding,</p> <p>10 there is no control that exists there that stops</p> <p>11 real-time bidding, sharing of user data in real-time</p> <p>12 bidding.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. You haven't looked at real-time bidding</p> <p>15 with respect to AdManager, though; right?</p> <p>16 A. Real-time bidding with respect to</p> <p>17 AdManager? I believe the documents that I cite</p> <p>18 represent conflagrations or, like, all the data</p> <p>19 fields that exist. And they're all available</p> <p>20 through various Google products, such as Google</p> <p>21 AdManager.</p> <p>22 Q. You haven't done any testing on AdSense;</p> <p>23 correct?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: That's correct.</p>	<p style="text-align: right;">Page 240</p> <p>1 authoritative source to look at whether or not some</p> <p>2 control exists or not.</p> <p>3 MS. KLEIN: Objection; nonresponsive and move</p> <p>4 to strike.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. The papers that you cited were authored by</p> <p>7 computer scientists; correct?</p> <p>8 A. Are you referring to a specific paper or</p> <p>9 generally speaking?</p> <p>10 Q. You just cited the papers you cited. And</p> <p>11 I'm saying the papers that -- the testing that you</p> <p>12 cited were conducted by computer scientists like</p> <p>13 yourself; right?</p> <p>14 A. The papers that I'm citing, they're</p> <p>15 generally appearing in venues where computer</p> <p>16 scientists public research.</p> <p>17 Q. If they have the ability to do the testing</p> <p>18 on Google's products, you have the ability to do</p> <p>19 that same testing on Google's products if you wanted</p> <p>20 to; right?</p> <p>21 A. Are you referring to a specific test or</p> <p>22 general testing that I describe in my report?</p> <p>23 Q. I'm referencing the papers that you cited</p> <p>24 in your report where other computer scientists have</p> <p>25 bothered to do testing on Google's products.</p>
<p style="text-align: right;">Page 239</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. You haven't done any testing on AdSense;</p> <p>3 correct?</p> <p>4 MR. ROBINSON: Same objection.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. I'm sorry, on AdManager.</p> <p>7 You haven't done any testing on AdManager;</p> <p>8 correct?</p> <p>9 MR. ROBINSON: Objection; form.</p> <p>10 THE WITNESS: That's correct.</p> <p>11 BY MS. KLEIN:</p> <p>12 Q. You haven't done any testing on AdMob?</p> <p>13 A. That's correct.</p> <p>14 Q. And as a computer scientist, you have the</p> <p>15 capability to do testing on those programs; right?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: It depends. The papers that I'm</p> <p>18 citing, they are conducting testing that would</p> <p>19 include data collection by, for example, Google</p> <p>20 AdSense and so forth. And then the documentation</p> <p>21 that I cite specifically for real-time bidding.</p> <p>22 MS. KLEIN: Objection --</p> <p>23 THE WITNESS: That's -- and the documentation</p> <p>24 that I cite for real-time bidding, I think that's</p> <p>25 the authoritative source to -- that's an</p>	<p style="text-align: right;">Page 241</p> <p>1 A. Like I said, I looked at the papers. I</p> <p>2 cite multiple papers that do the testing.</p> <p>3 Q. Right. And --</p> <p>4 A. Can I please complete my answer?</p> <p>5 Q. No, I'm -- sir, I'm asking if you have the</p> <p>6 ability, and you are not answering my question and</p> <p>7 it is a very late day and you haven't answered my</p> <p>8 questions all day, and I really want you to answer</p> <p>9 my question.</p> <p>10 My question is not what papers you cited.</p> <p>11 My question, sir, is, do you, as a</p> <p>12 computer scientist, yes or no, have the ability to</p> <p>13 perform testing on Google's products? Yes or no?</p> <p>14 MR. ROBINSON: Objection to the statements</p> <p>15 prior to the question.</p> <p>16 THE WITNESS: Are you referring to a specific</p> <p>17 kind of test? Because like I said earlier when I</p> <p>18 was reading those papers, I conducted my testing to</p> <p>19 confirm that the results or findings in those papers</p> <p>20 were correct.</p> <p>21 And then I did that, I found that the</p> <p>22 testing that was reported in those peer-reviewed</p> <p>23 papers was correct and then I am relying on the</p> <p>24 consensus opinion across multiple peer-reviewed</p> <p>25 research papers.</p>

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<p style="text-align: right;">Page 242</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Sir, will you have the jury believe that</p> <p>3 you cannot answer the question of whether you have</p> <p>4 the ability to perform testing on Google's products</p> <p>5 generally? As you sit here today, you can't answer</p> <p>6 that question?</p> <p>7 MR. ROBINSON: Objection; form.</p> <p>8 THE WITNESS: I believe I've answered your</p> <p>9 question multiple times.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. No, my question to you -- you can't answer</p> <p>12 my question yes or no. As you sit here -- tell the</p> <p>13 jury yes or no.</p> <p>14 Do you have the ability, the skill set, to</p> <p>15 perform testing on Google's products?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: Are you generally talking about</p> <p>18 testing? I'm trying to more precisely answer your</p> <p>19 question, which is --</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. It's a general question, sir.</p> <p>22 Do you, as you sit here today, as a</p> <p>23 computer scientist, have the ability to perform</p> <p>24 testing on Google's products?</p> <p>25 MR. ROBINSON: Objection; form.</p>	<p style="text-align: right;">Page 244</p> <p>1 Q. You don't know if you have the skill set,</p> <p>2 yes or no?</p> <p>3 A. I will need to look at that to be able to</p> <p>4 answer that question yes or no.</p> <p>5 Q. So you don't know is your answer?</p> <p>6 A. I don't know.</p> <p>7 Q. And it would be the same with any question</p> <p>8 I ask you about any of Google's products, you don't</p> <p>9 know if you have the ability to perform testing?</p> <p>10 A. If you're asking me --</p> <p>11 MR. ROBINSON: Objection; form.</p> <p>12 THE WITNESS: -- hypothetical questions about</p> <p>13 hypothetical systems and hypothetical controls that</p> <p>14 exist in those systems, I need more details about</p> <p>15 those hypotheticals to be able to answer your</p> <p>16 question.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. All right.</p> <p>19 As you sit here today, can you please tell</p> <p>20 the jury whether you have the skill set to evaluate</p> <p>21 the source code for AdManager to understand whether</p> <p>22 AdManager has a control that allows the turning off</p> <p>23 of the sharing of user data in RTB?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: I'm a computer scientist. I will</p>
<p style="text-align: right;">Page 243</p> <p>1 THE WITNESS: Yes. Just as I described earlier</p> <p>2 that I did the testing to confirm the testing that I</p> <p>3 cite in my report from peer-reviewed research</p> <p>4 papers.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. And as you sit here today, please tell the</p> <p>7 jury whether you have the skill set to perform more</p> <p>8 advanced testing on Google's products if you were</p> <p>9 offered the source code there too. Yes or no?</p> <p>10 MR. ROBINSON: Objection; form.</p> <p>11 THE WITNESS: I will need to know more details</p> <p>12 about the testing, the advanced testing, that you're</p> <p>13 referring to.</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. As you sit here today, you can't think of</p> <p>16 a single test you could perform on AdMob if you were</p> <p>17 offered the source code?</p> <p>18 A. I mean, it depends on what exactly is the</p> <p>19 assignment or the test that we are trying to design.</p> <p>20 Q. As you sit here today, could you perform a</p> <p>21 test to understand whether AdMob has a control to</p> <p>22 turn off the sharing of user data in RTB if you were</p> <p>23 offered the source code, yes or no?</p> <p>24 A. I will need to look at the source code to</p> <p>25 be able to answer the question.</p>	<p style="text-align: right;">Page 245</p> <p>1 need to look at the source code to be able to answer</p> <p>2 the question yes or no.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. So the --</p> <p>5 A. Sitting here today, I don't know.</p> <p>6 Q. Same with AdSense, as you sit here today,</p> <p>7 do you have the skill set to evaluate the source</p> <p>8 code for AdSense to understand whether it has a</p> <p>9 control that allows the turning off of the sharing</p> <p>10 of user data in RTB?</p> <p>11 MR. ROBINSON: Objection; form.</p> <p>12 THE WITNESS: My answer is the same as before.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. You don't know?</p> <p>15 A. I will need to look at that hypothetical</p> <p>16 control and look at the source code to be able to</p> <p>17 tell whether or not I can design a test that I can</p> <p>18 conduct.</p> <p>19 Q. So the answer is you don't know?</p> <p>20 MR. ROBINSON: Objection; form.</p> <p>21 THE WITNESS: Without that additional</p> <p>22 information, I don't know.</p> <p>23 BY MS. KLEIN:</p> <p>24 Q. Have you performed any investigation or</p> <p>25 analysis as to how much Google charges for any of</p>

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<p style="text-align: right;">Page 246</p> <p>1 its products?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: I don't believe that was my</p> <p>4 assignment in this case. I've not conducted that</p> <p>5 investigation.</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. Okay. Have you reviewed any of Google's</p> <p>8 contracts with publishers?</p> <p>9 A. I've looked at a lot of documents. I</p> <p>10 cannot, sitting here today from memory, recall if</p> <p>11 I've looked at contracts, but I don't generally</p> <p>12 because this is -- I don't read a lot of contracts.</p> <p>13 Q. You had access to the database in this</p> <p>14 case, though; correct?</p> <p>15 A. Yes.</p> <p>16 Q. And you did not search for contracts with</p> <p>17 publishers?</p> <p>18 A. Sitting here today from memory, I cannot</p> <p>19 recall whether or not we conducted the searches for</p> <p>20 specific contracts.</p> <p>21 Q. And as you sit here today, have you</p> <p>22 searched for any contracts that Google has with</p> <p>23 advertisers?</p> <p>24 A. Sitting here today, I do not recall from</p> <p>25 memory.</p>	<p style="text-align: right;">Page 248</p> <p>1 memory.</p> <p>2 Q. Do you have any information as to the</p> <p>3 pricing models for Google as to what is included in</p> <p>4 any particular product that you're buying?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: Are you referring to a specific</p> <p>7 product or any Google product?</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Any Google product in the advertising</p> <p>10 technology suite of products.</p> <p>11 MR. ROBINSON: Objection; form.</p> <p>12 THE WITNESS: For instance, it is my</p> <p>13 understanding that Google has a free version of</p> <p>14 Google Analytics and then there is a paid version of</p> <p>15 Google Analytics.</p> <p>16 But, again, this is not something that I</p> <p>17 specifically looked at and prepared for today's</p> <p>18 deposition, so I don't recall all the variations</p> <p>19 from memory.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. Have you looked at any contracts -- strike</p> <p>22 that.</p> <p>23 Yeah. Have you looked at any contracts</p> <p>24 that Google has with any data brokers?</p> <p>25 A. Contracts? I know that Google works --</p>
<p style="text-align: right;">Page 247</p> <p>1 Q. Do you know what Google charges for any of</p> <p>2 its ad tech products?</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: Generally yes, I am aware of it,</p> <p>5 but this was not a specific task that I investigated</p> <p>6 for the purposes of my report.</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. So for purposes of your report you don't</p> <p>9 know how much Google charges for its products?</p> <p>10 MR. ROBINSON: Objection; form.</p> <p>11 THE WITNESS: From my general experience as a</p> <p>12 computer scientist and knowledge of the advertising</p> <p>13 industry, I understand that Google charges -- Google</p> <p>14 has different charging models to charge for various</p> <p>15 products and services.</p> <p>16 For example, in ad auctions, Google</p> <p>17 charges a cut of the bid that wins the auction, so</p> <p>18 that's how Google charges in some of its products.</p> <p>19 So that's my general understanding.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. Any other understanding as to how Google</p> <p>22 charges?</p> <p>23 A. Because this was not a specific assignment</p> <p>24 that I worked on for the purposes of my report in</p> <p>25 this case, sitting here today I do not recall from</p>	<p style="text-align: right;">Page 249</p> <p>1 several of Google partners are data -- known data</p> <p>2 brokers, and I describe that in my report.</p> <p>3 Q. But you describe the data brokers in</p> <p>4 paragraph 78 of your report by citing to third</p> <p>5 parties; correct?</p> <p>6 A. Yes. In paragraph 78 of my report, I'm</p> <p>7 describing various Google ad tech partners, and this</p> <p>8 is what I've also seen independently in my research</p> <p>9 as well, that Google shares user data with these</p> <p>10 data brokers.</p> <p>11 Q. But you haven't cited a single Google</p> <p>12 document that indicates that Google shares data with</p> <p>13 these data brokers; correct?</p> <p>14 MR. ROBINSON: Objection; form.</p> <p>15 THE WITNESS: I believe I've cited a document.</p> <p>16 BY MS. KLEIN:</p> <p>17 Q. Where is a Google document that states</p> <p>18 that Google shares information with data brokers?</p> <p>19 A. I think the list of ad tech partners,</p> <p>20 which include known data brokers, they're listed in</p> <p>21 footnote 191 of my report.</p> <p>22 Q. And that is a European document; correct?</p> <p>23 A. I've, I believe, looked at a U.S. version</p> <p>24 of this document since submitting my report. There</p> <p>25 is a lot of overlap in the companies that are in the</p>

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<p>1 U.S. list versus the EU list.</p> <p>2 Q. But that's not cited in your report, is</p> <p>3 it?</p> <p>4 A. Yes. These companies that I describe are</p> <p>5 also, I believe, in the U.S. list.</p> <p>6 Q. And do you have knowledge of what the</p> <p>7 relationship is between Google and data brokers?</p> <p>8 A. From a technical standpoint, I have</p> <p>9 conducted tests as part of my research and</p> <p>10 scholarship. I've seen Google share cookie</p> <p>11 information, IP address, browsing history with data</p> <p>12 brokers such as Oracle that I've cited in my report.</p> <p>13 Q. You haven't personally viewed any</p> <p>14 agreements between Google and any data broker;</p> <p>15 correct?</p> <p>16 A. I have not personally looked at</p> <p>17 agreements.</p> <p>18 Q. And therefore you don't know -- you don't</p> <p>19 have any firsthand knowledge as to what information,</p> <p>20 if any, Google actually shares with the data</p> <p>21 brokers, do you?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: As part of my research and</p> <p>24 scholarship, I've seen the data sharing happen in</p> <p>25 action.</p>	<p>1 My question to you, sir, is, have you</p> <p>2 actually looked at documents between Google and</p> <p>3 either of these data brokers in which you have seen</p> <p>4 information transmitted between the two of them?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: I've conducted my own research as</p> <p>7 part of my research as an academic. I've published</p> <p>8 papers on this very topic.</p> <p>9 And I believe one of the papers that I've</p> <p>10 cited also specifically studies -- actually, two of</p> <p>11 those papers specifically study data sharing between</p> <p>12 different companies, including Google and different</p> <p>13 data brokers.</p> <p>14 And they document -- they have evidence,</p> <p>15 so I've seen evidence in my own research, I've seen</p> <p>16 evidence in the papers that I cite that show that</p> <p>17 Google shares data with known data brokers including</p> <p>18 user identifiers, IP address and browsing history.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. You don't cite your own research, do you?</p> <p>21 A. The citations that I've provided in my</p> <p>22 report, they're sufficient to form the opinions in</p> <p>23 my report. I could have cited some of my own</p> <p>24 research as well, but I decided that the citations</p> <p>25 that I ended up leaning on in my report were</p>
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<p>1 For example, a lot of my research -- one</p> <p>2 part of my research specifically deals with sharing</p> <p>3 of cookie identifiers or what is commonly called</p> <p>4 cookie syncing.</p> <p>5 (Reporter seeks clarification.)</p> <p>6 THE WITNESS: Cookie syncing.</p> <p>7 I've published a number of papers on this</p> <p>8 topic. I teach about this stuff in the classes that</p> <p>9 I teach. It is -- it is shown in all of that</p> <p>10 research that Google does sharing of user</p> <p>11 identifiers with a number of data brokers, including</p> <p>12 the two data brokers that I give examples here.</p> <p>13 MS. KLEIN: Objection; nonresponsive and move</p> <p>14 to strike.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. My question to you, sir, is firsthand</p> <p>17 knowledge, not scholarly publications.</p> <p>18 A. If you see something in action, would you</p> <p>19 consider that firsthand knowledge or --</p> <p>20 Q. You interrupted me, sir. You interrupted</p> <p>21 me, sir, this time. May I finish my question?</p> <p>22 A. Is it a question?</p> <p>23 Q. I was working on my question, so I'm going</p> <p>24 to move to strike my question and I will start it</p> <p>25 over again.</p>	<p>1 sufficient to form the basis of my opinions.</p> <p>2 Q. Well, you also listed on Appendix A the</p> <p>3 materials that you relied upon. And you do not list</p> <p>4 any of your research, Dr. Shafiq, related to data</p> <p>5 brokers in Appendix A, do you?</p> <p>6 A. The papers that are listed in Subsection A</p> <p>7 of Appendix A does not include a paper that I have</p> <p>8 co-authored.</p> <p>9 Q. So you did not rely on any of your own</p> <p>10 papers that you've authored in rendering your</p> <p>11 report; correct?</p> <p>12 MR. ROBINSON: Objection; form.</p> <p>13 THE WITNESS: You're asking me a question that</p> <p>14 goes beyond the scope of my reports. I was telling</p> <p>15 you there were papers -- for example, the first</p> <p>16 paper, "Web Tracking from Users' Perspective," that</p> <p>17 paper specifically studies data sharing between</p> <p>18 different companies, and it has a very nice graph</p> <p>19 that shows how Google data -- Google shares data</p> <p>20 with different companies.</p> <p>21 The second paper that I cite, "Online</p> <p>22 Tracking: A 1-million-site Measurement and</p> <p>23 Analysis," that's example of another paper --</p> <p>24 (Reporter seeks clarification.)</p> <p>25 THE WITNESS: "Online Tracking: A</p>

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<p style="text-align: right;">Page 254</p> <p>1 1-million-site Measurement and Analysis," that's</p> <p>2 example of another paper that also studies the</p> <p>3 practice of cookie syncing, including cookie syncing</p> <p>4 done between Google and other companies, including</p> <p>5 data brokers.</p> <p>6 MS. KLEIN: Objection; nonresponsive and move</p> <p>7 to strike.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. My question to you, sir, was not about the</p> <p>10 documents that are referred to in Appendix A, which</p> <p>11 we've agreed are not your papers.</p> <p>12 My question to you was, you did not rely</p> <p>13 on any of your own papers in rendering the opinions</p> <p>14 in your report; correct?</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 THE WITNESS: I'm a scholar who conducts</p> <p>17 research in this space.</p> <p>18 (Reporter seeks clarification.)</p> <p>19 THE WITNESS: I am a scholar, a scientist, who</p> <p>20 conducts research in this space. I publish papers</p> <p>21 that I'm sure you can see on my website. They are</p> <p>22 listed in my CV.</p> <p>23 And the findings of my own papers confirm</p> <p>24 what is listed -- what is shown in the papers that I</p> <p>25 do cite, which document the sharing of data that</p>	<p style="text-align: right;">Page 256</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Dr. Shafiq, you've been an expert witness</p> <p>3 in 16 cases over the course of the last four years;</p> <p>4 right?</p> <p>5 A. That's correct.</p> <p>6 Q. And by now you know that when issuing a</p> <p>7 report as a testifying expert, you are required,</p> <p>8 under the Federal Rules of Civil Procedure, to list</p> <p>9 out all of the materials that you relied upon;</p> <p>10 correct?</p> <p>11 A. I believe I listed them in Appendix A of</p> <p>12 my report.</p> <p>13 Q. And there are no papers authored by Zubair</p> <p>14 Shafiq listed in Appendix A in your report; correct?</p> <p>15 MR. ROBINSON: Objection; form.</p> <p>16 THE WITNESS: That's correct.</p> <p>17 BY MS. KLEIN:</p> <p>18 Q. And therefore you did not rely on any of</p> <p>19 the papers that you authored in forming the opinions</p> <p>20 that are reflected in your report, which is Shafiq</p> <p>21 Exhibit 3; correct?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: I relied on other papers whose</p> <p>24 findings confirm -- independently confirm findings</p> <p>25 of my own research.</p>
<p style="text-align: right;">Page 255</p> <p>1 Google does with other companies, including known</p> <p>2 data brokers.</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. Dr. Shafiq, you have been a testifying</p> <p>5 expert in 16 cases over the course of the last four</p> <p>6 years; correct? Yes?</p> <p>7 A. Is the count will be my CV?</p> <p>8 Q. Yes.</p> <p>9 A. Are you representing to me that's an</p> <p>10 accurate count?</p> <p>11 Q. That is correct.</p> <p>12 We discussed earlier today you've been an</p> <p>13 expert -- testifying expert -- it's also at the end</p> <p>14 of your report -- on 16 cases over the course of the</p> <p>15 last four years.</p> <p>16 MR. ROBINSON: One -- my apologies. One quick</p> <p>17 technical issue. I don't know if y'all are seeing</p> <p>18 this in y'all's real-times. I'm getting an error</p> <p>19 message. Are y'all seeing this on y'all's real-time</p> <p>20 screens? It's asking me to remove something from a</p> <p>21 separate deposition.</p> <p>22 THE REPORTER: Do you want me to talk or write?</p> <p>23 I can't write and talk at the same time.</p> <p>24 MR. ROBINSON: Oh, okay.</p> <p>25 MS. KLEIN: Just use this one.</p>	<p style="text-align: right;">Page 257</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Papers authored by other scientists;</p> <p>3 correct?</p> <p>4 A. Papers authored by other scientists that</p> <p>5 appeared in peer-reviewed venues.</p> <p>6 Q. That's right.</p> <p>7 You did not rely on any papers that you</p> <p>8 authored in forming the opinions reflected in</p> <p>9 Exhibit 3; correct?</p> <p>10 MR. ROBINSON: Objection; form.</p> <p>11 BY MS. KLEIN:</p> <p>12 Q. Otherwise they would be reflected in</p> <p>13 Appendix A and they are not.</p> <p>14 A. You're asking me a question that is not</p> <p>15 something that I specifically opine upon -- that I</p> <p>16 did not specifically opine about in my report. If</p> <p>17 you go beyond the context of my report --</p> <p>18 Q. I'm --</p> <p>19 A. -- I conduct research in this space, as</p> <p>20 you know that I've written dozens of papers on this</p> <p>21 very topic.</p> <p>22 To answer your question, I was telling you</p> <p>23 my knowledge. I am editor-in-chief of Proceeding of</p> <p>24 Privacy Enhancing Technologies, so I review research</p> <p>25 on a regular basis. So I was trying to answer your</p>

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<p>1 question based on my general knowledge and expertise</p> <p>2 in this field.</p> <p>3 Q. And I'm asking you questions based upon</p> <p>4 what you did in this case.</p> <p>5 And my question in this case was, you have</p> <p>6 not personally reviewed any agreements or any</p> <p>7 documents that indicate that Google has transferred</p> <p>8 or provided any information to data brokers. That</p> <p>9 is all based on speculation from papers that you</p> <p>10 cite. You haven't seen any Google documents</p> <p>11 reflecting same --</p> <p>12 MR. ROBINSON: Objection; form.</p> <p>13 BY MS. KLEIN:</p> <p>14 Q. -- that show the actual sharing of any</p> <p>15 information?</p> <p>16 MR. ROBINSON: Same objection.</p> <p>17 THE WITNESS: The papers that I -- the papers</p> <p>18 that I cite document empirically in great detail</p> <p>19 data sharing between Google and other companies.</p> <p>20 MS. KLEIN: Objection; nonresponsive and move</p> <p>21 to strike.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. I'm talking about Google documents.</p> <p>24 When you make a statement that Google is</p> <p>25 sharing information, have you seen any evidence,</p>	<p>1 memory whether or not I conducted that specific</p> <p>2 search. I will need to look at my notes that I was</p> <p>3 taking as I was preparing that report to be able to</p> <p>4 answer your question.</p> <p>5 Q. Well, certainly if you're opining as a</p> <p>6 fact that Google sells user data to data brokers,</p> <p>7 one would assume you would have searched the</p> <p>8 database to see whether there's any documents in the</p> <p>9 Google production that would confirm this statement;</p> <p>10 right?</p> <p>11 A. These are all the companies that are</p> <p>12 listed in this particular link. These companies are</p> <p>13 known data brokers that are listed in various data</p> <p>14 broker registries, which is a lot of peer-reviewed</p> <p>15 research, including peer-reviewed research that I</p> <p>16 cite that provide evidence how Google shares data</p> <p>17 with these data brokers.</p> <p>18 MS. KLEIN: Objection; nonresponsive and move</p> <p>19 to strike.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. My question to you, sir, is, your report</p> <p>22 opines as a fact that Google sells user data to data</p> <p>23 brokers.</p> <p>24 Did you search the database to see if</p> <p>25 there's any documents in the Google production that</p>
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<p>1 other than the European document that you cite in</p> <p>2 the footnote, that demonstrates Google is sharing</p> <p>3 information with data brokers, yes or no?</p> <p>4 A. Other than --</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 Professor Shafiq, if you wouldn't mind</p> <p>7 just pausing so I may get my objections.</p> <p>8 THE WITNESS: Can you please rephrase your</p> <p>9 question?</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. Yes.</p> <p>12 Have you -- you had access to the database</p> <p>13 to search for documents; right?</p> <p>14 A. That's correct.</p> <p>15 Q. And did you search for documents that</p> <p>16 indicated whether or not Google shared information</p> <p>17 with data brokers?</p> <p>18 A. Sitting here today I cannot recall from</p> <p>19 memory whether I conducted searches specifically for</p> <p>20 that, but --</p> <p>21 Q. That would have been important to your</p> <p>22 report; right?</p> <p>23 A. Can I please complete my answer?</p> <p>24 Q. Yes, of course.</p> <p>25 A. Sitting here today I cannot recall from</p>	<p>1 would confirm or deny this opinion?</p> <p>2 A. Like I --</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: Like I said earlier, sitting here</p> <p>5 today from memory, I cannot recall. I will need to</p> <p>6 look at my notes to be able to answer your question</p> <p>7 which exact searches me and my team conducted.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. It would have been important to do,</p> <p>10 though, if you're stating it as a fact, and you</p> <p>11 would have wanted to find all the evidence you can</p> <p>12 to support that fact as an expert; right?</p> <p>13 A. The facts -- the citations that I provided</p> <p>14 here and then throughout my report, they are</p> <p>15 sufficient to support the opinions that I'm offering</p> <p>16 in the report.</p> <p>17 Q. That's all you have, though; right --</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. -- is what's cited in your report;</p> <p>21 correct?</p> <p>22 A. Yes, and I also have knowledge and</p> <p>23 expertise that I'm relying on that is listed in my</p> <p>24 CV.</p> <p>25 Q. But for factual information, the only</p>

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<p style="text-align: right;">Page 262</p> <p>1 thing you have is what's reflected in your report at 2 191 from Google's documents? 3 MR. ROBINSON: Objection; form. 4 THE WITNESS: And if you -- if you pretend that 5 Appendix A does not exist, then sure. 6 BY MS. KLEIN: 7 Q. I don't pretend that Appendix A does not 8 exist, sir. I have looked at Appendix A. 9 Can you tell me a single document on 10 Appendix A from the Google production that supports 11 the factual contention that Google sells RTB data to 12 data brokers? 13 (Witness reviews document.) 14 Q. You were looking at Appendix A. 15 Can you identify for me a single document 16 from the Google production that demonstrates or 17 would support your opinion that Google sells user 18 data to data brokers? 19 A. I will need to look at those documents. I 20 have not memorized all of these documents. So 21 sitting here today from memory, I cannot tell you. 22 MR. ROBINSON: Counsel, once you finish this 23 line of questioning, can we take a break? 24 THE WITNESS: I need to -- sorry -- use the 25 restroom.</p>	<p style="text-align: right;">Page 264</p> <p>1 appears on Appendix A, you would have put it a 2 footnote to paragraph 78; correct? 3 A. I cannot answer your question from memory. 4 I will need to look at my drafting notes to be able 5 to reliably answer your question. 6 MS. KLEIN: Well, we'd request a copy of the 7 drafting notes, then, if he's going to say he can't 8 answer my question unless he looks at the notes. 9 Now we can take a break. 10 THE VIDEOGRAPHER: We're going off the record. 11 Time is 5:36. 12 (Recess taken.) 13 THE VIDEOGRAPHER: We're back on the record. 14 Time is 5:50. 15 BY MS. KLEIN: 16 Q. We're back on the record after a short 17 break. 18 Is there anything you'd like to change or 19 clarify about your testimony, Dr. Shafiq? 20 A. No. 21 Q. Okay. In paragraph 62 of your report -- 22 THE VIDEOGRAPHER: Counsel, microphone. 23 THE WITNESS: Yes. 24 BY MS. KLEIN: 25 Q. -- you cite to a 2021 paper -- and I'm</p>
<p style="text-align: right;">Page 263</p> <p>1 BY MS. KLEIN: 2 Q. Yes, just one -- just one more question 3 and then happy to take a break. 4 Safe to assume that if you had found a 5 document from Google's production that supported the 6 contention in paragraph 78, that you would have 7 cited it in the body of the report; correct? 8 MR. ROBINSON: Objection; form. 9 BY MS. KLEIN: 10 Q. Is that correct? 11 MR. ROBINSON: Same objection. 12 THE WITNESS: The document that I've cited in 13 that part of my report and other research that I've 14 cited is sufficient to offer the basis -- there 15 could exist other documents that I have cited that 16 could provide additional bases for that exact same 17 fact, but I'm comfortable with the facts that -- the 18 evidence that I've cited. 19 MS. KLEIN: Objection; nonresponsive and move 20 to strike. 21 BY MS. KLEIN: 22 Q. There's a lot of Google-produced documents 23 cited in your report, and my question to you, sir, 24 was if there were a Google-produced document that 25 supported the contention in paragraph 78 that</p>	<p style="text-align: right;">Page 265</p> <p>1 going to mangle these names -- by Tahaei and Vanica, 2 T-a-h-a-e-i and V-a-n-i-e-a, that purports to 3 document dark patterns used by Google AdMob. 4 Do you see that? 5 A. That is correct. 6 Q. Okay. And the paper relates only to 7 AdMob; correct? 8 A. I will need to look at the paper because I 9 know that the paper was analyzing a broad range of 10 disclosures and, if I remember correctly, perhaps 11 not even limited to Google. But the things that I 12 cite here specifically discuss AdMob. 13 Q. And you don't have any papers that cite 14 AdSense; correct? 15 (Witness reviews document.) 16 A. Not in this section, that's correct. 17 Q. And you don't have any papers for this 18 section discussing dark patterns about Ad Exchange; 19 correct? 20 A. I cite in this paper; but other than this 21 paper, I don't see any other papers I cite. 22 Q. And in paragraph 82 of your report -- 23 A. Oh, okay. So we are changing gears? 24 Q. Yeah, I just want to ask you questions 25 about 82 of your report.</p>

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<p style="text-align: right;">Page 266</p> <p>1 Have you reviewed paragraph 82 of your</p> <p>2 report?</p> <p>3 A. Yes. I'm at paragraph 82 of my report.</p> <p>4 Q. The papers that you cite in paragraph 82</p> <p>5 of your report are not specific to Google's</p> <p>6 advertising technology; correct?</p> <p>7 A. No. You are wrong.</p> <p>8 Q. How am I wrong?</p> <p>9 A. These papers that I've cited here, they</p> <p>10 specifically deal with Google's advertising</p> <p>11 technology. For example, one of the papers</p> <p>12 specifically takes the information that Google shows</p> <p>13 to consumers in terms of the data that Google</p> <p>14 collects and how Google classifies users into</p> <p>15 various audiences and the paper kind of builds on</p> <p>16 that to add information to it and then conduct a</p> <p>17 user survey, asking users about what do they think.</p> <p>18 And the takeaway of all of that</p> <p>19 research -- again, this is all specific to Google's</p> <p>20 advertising -- is that users are creeped out.</p> <p>21 (Reporter seeks clarification.)</p> <p>22 Q. Well, the papers are specific to Internet</p> <p>23 advertising; correct?</p> <p>24 A. No. If you show me these papers, I can</p> <p>25 point you to the specific parts or design of these</p>	<p style="text-align: right;">Page 268</p> <p>1 I was asking you a general question unrelated to</p> <p>2 these studies.</p> <p>3 My question to you is, that while some</p> <p>4 people might find personalized ads creepy or</p> <p>5 invasive, you agree with me that there are some</p> <p>6 consumers who actually like targeted ads; correct?</p> <p>7 A. It is possible that there could exist</p> <p>8 users, but, like I said here and I'm discussing in</p> <p>9 this part of my report, peer-reviewed research where</p> <p>10 researchers have showed to consumers the extent of</p> <p>11 data collection used and how it is used for</p> <p>12 personalized advertising, once that full context is</p> <p>13 made available to consumers, consumers become</p> <p>14 uncomfortable.</p> <p>15 So if you don't tell any consumers why</p> <p>16 they are seeing a particular ad in full detail, then</p> <p>17 consumers may have certain opinion and this is where</p> <p>18 I think Dr. Hoffman got it wrong.</p> <p>19 In privacy research, where privacy</p> <p>20 researchers do these surveys, they make sure that</p> <p>21 they tell consumers the full extent of data</p> <p>22 collection, sharing and use.</p> <p>23 And once that full context is provided to</p> <p>24 consumers, the opinion that Dr. Hoffman provided,</p> <p>25 she would have reached a different opinion and those</p>
<p style="text-align: right;">Page 267</p> <p>1 papers that are geared towards Google specifically</p> <p>2 and the information that Google collects and uses</p> <p>3 for targeted advertising.</p> <p>4 Q. The information that Google collects and</p> <p>5 uses but not necessarily the advertising technology</p> <p>6 platforms; correct?</p> <p>7 A. It is related to all the other controls</p> <p>8 and transparency things that we looked at earlier,</p> <p>9 and they are all related to the information that</p> <p>10 Google uses for advertising.</p> <p>11 Q. And you agree with me, sir, that while</p> <p>12 some people might find personalized ads creepy or</p> <p>13 invasive, there are consumers who actually like</p> <p>14 targeted ads; correct?</p> <p>15 A. The papers that I cite where they conduct</p> <p>16 these surveys, the takeaway of that research is --</p> <p>17 and this is the conclusion that researchers draw</p> <p>18 there -- that a vast majority -- for example, in one</p> <p>19 specific paper that I cite, 80 percent of the</p> <p>20 research participants were uncomfortable with the</p> <p>21 level of tracking.</p> <p>22 MS. KLEIN: Objection; nonresponsive and move</p> <p>23 to strike.</p> <p>24 BY MS. KLEIN:</p> <p>25 Q. I wasn't asking you about tracking, sir.</p>	<p style="text-align: right;">Page 269</p> <p>1 surveys showed that users -- vast majority of them</p> <p>2 are uncomfortable.</p> <p>3 MS. KLEIN: Objection; nonresponsive and move</p> <p>4 to strike after, "It's possible there could exist</p> <p>5 users."</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. Sir, I'm not asking you about what happens</p> <p>8 to people after they've been exposed to information</p> <p>9 in the study.</p> <p>10 I'm asking you, don't you agree with me</p> <p>11 that there's a spectrum of people out there in the</p> <p>12 universe, some of whom like targeted ads and some of</p> <p>13 them don't care and some of them dislike them and</p> <p>14 it's a spectrum, and you agree with me that those</p> <p>15 users exist; correct?</p> <p>16 MR. ROBINSON: Objection; form.</p> <p>17 THE WITNESS: Your statement is lacking context</p> <p>18 and all the research that I'm describing in this</p> <p>19 part of my report.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. I'm not asking --</p> <p>22 A. For example --</p> <p>23 Q. -- about -- this is -- we're going to go</p> <p>24 on forever here, sir, if you don't listen to my</p> <p>25 question and stop littering it with information that</p>

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<p style="text-align: right;">Page 270</p> <p>1 you want to tie back to your report. I'm not asking</p> <p>2 about your report. I'm not asking about studies.</p> <p>3 A. Can I close my report?</p> <p>4 Q. Sure.</p> <p>5 I'm not asking about your report. I'm not</p> <p>6 asking about studies. I am asking about facts.</p> <p>7 And isn't it true that out there in the</p> <p>8 universe exists a spectrum of consumers, some of</p> <p>9 whom like targeted ads, some of whom hate targeted</p> <p>10 ads and there's a variety of people in between and</p> <p>11 there's a spectrum of people who like to dislike?</p> <p>12 A. I would --</p> <p>13 MR. ROBINSON: Objection; form.</p> <p>14 THE WITNESS: I would not agree with that.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. Do you agree that there are any consumers</p> <p>17 who like targeted ads?</p> <p>18 A. There could exist consumers who like, but</p> <p>19 peer-reviewed research has shown that once users are</p> <p>20 fully made aware of the data collection, usage and</p> <p>21 sharing and how advertisers use it to profile</p> <p>22 consumers, then consumers largely, vast majority --</p> <p>23 for example, in this one particular study, more than</p> <p>24 80 percent or about 80 percent are uncomfortable.</p> <p>25 So there could exist 20 percent that have some level</p>	<p style="text-align: right;">Page 272</p> <p>1 (Reporter seeks clarification.)</p> <p>2 THE WITNESS: -- the papers that I cite in</p> <p>3 footnotes 208, 209, 210 get to this issue.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. Right. And in 209 you say, [as read]</p> <p>6 "One-third of participants who saw our fully</p> <p>7 featured interface were surprised how trackers were</p> <p>8 used -- how trackers used their browsing history to</p> <p>9 infer their interests, and that interests were even</p> <p>10 inferred in the first place. Even before using our</p> <p>11 tool, participants were often aware of the existence</p> <p>12 of online tracking. However, when confronted with</p> <p>13 detailed descriptions of tracking in their own</p> <p>14 browsing, they were often surprised by tracking</p> <p>15 extent and prevalence. Further, participants who</p> <p>16 saw information about potential inferences reported</p> <p>17 greater intentions to take privacy-protective</p> <p>18 actions."</p> <p>19 Do you see that?</p> <p>20 A. I apologize. You lost me. Where are you</p> <p>21 reading from?</p> <p>22 Q. Footnote 209. The inference of the study</p> <p>23 in paragraph 209 is not that people didn't like</p> <p>24 targeted ads, it's that they would take greater</p> <p>25 privacy protections; correct?</p>
<p style="text-align: right;">Page 271</p> <p>1 of comfort, but there exist 80 percent of consumers</p> <p>2 who are uncomfortable.</p> <p>3 Q. They're uncomfortable about the level of</p> <p>4 data collected, but it doesn't change whether or not</p> <p>5 they like targeted ads; correct? That wasn't part</p> <p>6 of the study.</p> <p>7 A. Let me give you an example.</p> <p>8 Q. I don't want an example, sir. I want to</p> <p>9 know the study.</p> <p>10 If you're going to quote the study to me,</p> <p>11 I want to say that the finding of this study was</p> <p>12 that consumers were uncomfortable with the level of</p> <p>13 data collected, not that it changed their opinion</p> <p>14 about whether or not they liked targeted ads;</p> <p>15 correct?</p> <p>16 A. Do you want me to go to the report?</p> <p>17 Because I cite studies in my report.</p> <p>18 Q. I want to know for those specific studies,</p> <p>19 sir, that it changed the opinion about their comfort</p> <p>20 for data collected but not whether or not they liked</p> <p>21 the targeted ads; right?</p> <p>22 MR. ROBINSON: Objection; form.</p> <p>23 THE WITNESS: I've not memorized the papers,</p> <p>24 but the papers that I cite in footnote 208 and 209</p> <p>25 of my report --</p>	<p style="text-align: right;">Page 273</p> <p>1 MR. ROBINSON: Objection; form.</p> <p>2 THE WITNESS: I would ask you to pay attention</p> <p>3 to earlier parts of this paragraph, where, for</p> <p>4 example, I quote, "the researchers found that</p> <p>5 consumers perceived behaviorally personalized ads as</p> <p>6 'creepy' and 'privacy invasive,' and that a majority</p> <p>7 'were either fully or partially opposed' to</p> <p>8 personalized ads."</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. That's not the same study, sir. That's</p> <p>11 paragraph 208. I was looking at study 209.</p> <p>12 Do you see that?</p> <p>13 A. I believe I told you all the footnotes</p> <p>14 which include this one.</p> <p>15 Q. And that's a study from 2012; correct?</p> <p>16 A. That paper was published in 2012, that's</p> <p>17 correct.</p> <p>18 Q. Right. And the Internet advertising</p> <p>19 technology has changed vastly since then, hasn't it?</p> <p>20 MR. ROBINSON: Objection; form.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Correct?</p> <p>23 A. Oh, sorry. What was the question?</p> <p>24 Q. Internet advertising technology has</p> <p>25 changed a lot since then, as has consumer</p>

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<p style="text-align: right;">Page 274</p> <p>1 expectations; correct?</p> <p>2 MR. ROBINSON: Objection; form.</p> <p>3 THE WITNESS: I would not agree with that.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. You don't have anything -- strike that.</p> <p>6 Do you agree with me that end users'</p> <p>7 relationship with technology has changed since 2012?</p> <p>8 MR. ROBINSON: Objection; form.</p> <p>9 THE WITNESS: Can you -- because your question</p> <p>10 is a very broad question. Can you please add more</p> <p>11 details into it?</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. No, I can't.</p> <p>14 Can you answer my question?</p> <p>15 MR. ROBINSON: Same objection.</p> <p>16 THE WITNESS: Unless you give me more specific</p> <p>17 details -- this is not something that I studied as</p> <p>18 part of my assignment in this case, and I cannot,</p> <p>19 sitting here today from memory, answer your</p> <p>20 questions.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Users' understanding of technology has</p> <p>23 changed since 2012, hasn't it?</p> <p>24 MR. ROBINSON: Objection; form.</p> <p>25 THE WITNESS: This is a very, very broad</p>	<p style="text-align: right;">Page 276</p> <p>1 consumers are served ads has changed considerably</p> <p>2 since 2012?</p> <p>3 MR. ROBINSON: Objection; form.</p> <p>4 THE WITNESS: There is still, for example,</p> <p>5 programmatic advertising. That has remained</p> <p>6 constant. The exact protocol or some detail may</p> <p>7 have evolved, but generally speaking, the use of</p> <p>8 cookies and other device identifiers to track</p> <p>9 consumers, to profile them, to share and sell their</p> <p>10 data, that was true in 2012, that remains true</p> <p>11 today.</p> <p>12 MS. KLEIN: Objection; nonresponsive and move</p> <p>13 to strike.</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. My question to you, sir, was, do you agree</p> <p>16 that the way consumers are served ads has changed</p> <p>17 considerably since 2012, yes or no?</p> <p>18 MR. ROBINSON: Objection; form.</p> <p>19 THE WITNESS: I would not agree with that</p> <p>20 statement.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Do you agree with me, sir, that there have</p> <p>23 been a variety of privacy regulations that have been</p> <p>24 implemented since 2012?</p> <p>25 MR. ROBINSON: Objection; form.</p>
<p style="text-align: right;">Page 275</p> <p>1 question. It is hard for me to answer your very,</p> <p>2 very broad question as a "yes" or "no."</p> <p>3 BY MS. KLEIN:</p> <p>4 Q. You don't know the answer then?</p> <p>5 MR. ROBINSON: Objection; form.</p> <p>6 THE WITNESS: This was not the assignment that</p> <p>7 was given to me by counsel in this specific case.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. Do you agree with me that digital</p> <p>10 advertising has evolved since 2012?</p> <p>11 MR. ROBINSON: Objection; form.</p> <p>12 THE WITNESS: There are things in digital</p> <p>13 advertising that have remained the same and then</p> <p>14 there are things that have changed.</p> <p>15 For example, as I think is documented in</p> <p>16 these series of papers, over the years, the level of</p> <p>17 tracking that is done by companies such as Google</p> <p>18 has increased.</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. Do you agree with me that consumers have</p> <p>21 started to use social media more since 2012?</p> <p>22 A. I did not specifically study this for the</p> <p>23 purposes of this report, so I cannot reliably answer</p> <p>24 your question one way or the other.</p> <p>25 Q. Do you agree with me that the way that</p>	<p style="text-align: right;">Page 277</p> <p>1 THE WITNESS: Yes.</p> <p>2 BY MS. KLEIN:</p> <p>3 Q. Including privacy regulations in the</p> <p>4 United States?</p> <p>5 A. Yes.</p> <p>6 Q. What is the definition of sell?</p> <p>7 A. I understand that there is a legal</p> <p>8 definition, so since I'm not offering any legal</p> <p>9 opinions in this case, I'm not going to offer a</p> <p>10 legal definition of sell.</p> <p>11 But in the field of computer science, the</p> <p>12 way this term is commonly understood is data is</p> <p>13 shared and then the other party gets paid.</p> <p>14 Q. For the use of the data?</p> <p>15 A. Yeah, the transaction happens that the</p> <p>16 data is shared and then the other party gets paid.</p> <p>17 Q. Somebody is buying the data? The use of</p> <p>18 the data?</p> <p>19 MR. ROBINSON: Objection; form.</p> <p>20 THE WITNESS: Can you clarify what you mean by</p> <p>21 "use of the data"? That's throwing me off.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. Somebody is buying the data to use.</p> <p>24 A. Yes. As I described in my report, there</p> <p>25 are data brokers who buy the data and then use it in</p>

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<p style="text-align: right;">Page 278</p> <p>1 a number of ways, including further selling it to 2 other companies. 3 MS. KLEIN: Thank you, Dr. Shafiq. 4 I'll pass the witness. 5 MR. ROBINSON: Okay. If we could just take a 6 brief break. 7 THE VIDEOGRAPHER: We're off the record. The 8 time is 6:09. 9 (Recess taken.) 10 THE VIDEOGRAPHER: We're back on the record. 11 The time is 6:28. 12 EXAMINATION 13 BY MR. ROBINSON: 14 Q. Now, Professor Shafiq, it's been a long 15 day, so let's keep it to some brief questions for 16 you. 17 So you issued a report on September 9th, 18 2024; correct? 19 A. That's correct. 20 Q. And since you issued your September 9th, 21 2024 report, has your -- have your opinions changed 22 since you issued the report? 23 A. No. 24 Q. And I want to briefly touch on your 25 report. Looking at your expert report,</p>	<p style="text-align: right;">Page 280</p> <p>1 Do you see that? 2 A. Yes. 3 Q. And finishing out that sentence, "Google 4 has substantial and unique access to data through 5 its O&amp;O websites and products that provides it with 6 a data advantage over competitors." 7 Did I read that correctly? 8 A. Yes. 9 Q. And sitting here today has that remained 10 your opinion? 11 MS. KLEIN: Objection; leading. 12 THE WITNESS: Yes. 13 BY MR. ROBINSON: 14 Q. Moving to Subsection C, your third opinion 15 in this case, on the next page directly above 16 paragraph 17, directly above the header titled 17 "Google's Conduct Related to Bid Data Transfer 18 Files," do you see the paragraph directly above 19 that? 20 A. Yes. 21 Q. And do you see the sentence that reads, 22 [as read] "Contrary to Google's disclosure 23 statement, Google sells user data billions of times 24 every day in real-time bidding auctions. Google 25 does not offer any control to users to opt-out of</p>
<p style="text-align: right;">Page 279</p> <p>1 paragraph 15, you broadly offer three opinions in 2 this case; right? 3 A. That's correct. 4 MS. KLEIN: Objection; outside the scope of 5 direct. 6 BY MR. ROBINSON: 7 Q. And one of those opinions is listed in 8 paragraph 16, Subsection A and reads, [as read] "It 9 is my opinion that there are no unique privacy 10 concerns with header bidding as compared to Google's 11 open bidding and Dr. Ghose fails to identify any 12 unique privacy concerns with header bidding as 13 compared to Google's open bidding." 14 Did I read that correctly? 15 A. Yes. 16 Q. And that is -- does that remain your 17 opinion today? 18 MS. KLEIN: Objection; leading. 19 THE WITNESS: Yes. 20 BY MR. ROBINSON: 21 Q. Moving to Subsection B, your second 22 opinion, in about the middle of the paragraph, do 23 you see a sentence that starts with, "It is my 24 opinion that Google has substantial and unique 25 access"?</p>	<p style="text-align: right;">Page 281</p> <p>1 the sale of their data in RTB"? 2 Did -- I read that correctly; right? 3 A. Yes. 4 Q. And sitting here today does that remain 5 your opinion? 6 MS. KLEIN: Objection; leading. 7 THE WITNESS: Yes. 8 BY MR. ROBINSON: 9 Q. And you're not offering any opinions 10 outside of this report; right? 11 A. That's correct. 12 Q. And all the bases of your report that you 13 rely on in your opinions are contained in your 14 report and the appendices to your report; right? 15 MS. KLEIN: Objection; form. 16 THE WITNESS: That's correct. 17 BY MR. ROBINSON: 18 Q. And you used a methodology in reaching 19 these opinions in your report; right? 20 MS. KLEIN: Objection; leading. 21 THE WITNESS: Yes. 22 BY MR. ROBINSON: 23 Q. And we've discussed that methodology here 24 today with Google's counsel; right? 25 A. Yes.</p>

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<p style="text-align: right;">Page 282</p> <p>1 Q. And that methodology that you used in</p> <p>2 reaching those opinions is contained in your report?</p> <p>3 MS. KLEIN: Objection; form.</p> <p>4 THE WITNESS: Yes.</p> <p>5 BY MR. ROBINSON:</p> <p>6 Q. And have you used this methodology before</p> <p>7 in reaching opinions?</p> <p>8 MS. KLEIN: Objection; leading.</p> <p>9 THE WITNESS: Yes. As I describe in my report,</p> <p>10 peer-reviewed research, the methodology that is</p> <p>11 contained therein, that is the methodology that I've</p> <p>12 used and is used in the materials that I've relied</p> <p>13 upon, such as peer-reviewed research papers. This</p> <p>14 is commonly used in computer science research.</p> <p>15 BY MR. ROBINSON:</p> <p>16 Q. So others in your field use the same</p> <p>17 methodology?</p> <p>18 MS. KLEIN: Objection; leading, form --</p> <p>19 THE WITNESS: That's correct.</p> <p>20 MS. KLEIN: -- outside the scope of direct.</p> <p>21 THE WITNESS: That's correct.</p> <p>22 BY MR. ROBINSON:</p> <p>23 Q. And this methodology that you've used and</p> <p>24 is in your report is considered reliable in your</p> <p>25 field of expertise?</p>	<p style="text-align: right;">Page 284</p> <p>1 will conclude my questions for today and I'll</p> <p>2 reserve further questions for -- one second, one</p> <p>3 second.</p> <p>4 That will conclude my questions for today</p> <p>5 and I'll reserve further questions for trial.</p> <p>6 FURTHER EXAMINATION</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. Professor Shafiq, I just have a couple of</p> <p>9 questions.</p> <p>10 So remember earlier today when we were</p> <p>11 talking and I was asking you lots of questions about</p> <p>12 your opinions in TikTok and the other cases, your</p> <p>13 counsel continually instructed you not to answer to</p> <p>14 the extent that you would have to violate your NDA;</p> <p>15 correct?</p> <p>16 A. I did not answer a subset of questions on</p> <p>17 the instruction of counsel.</p> <p>18 Q. Right, because what you oftentimes do as</p> <p>19 an expert witness in your chosen field requires an</p> <p>20 NDA when you get hired, as an expert report [sic];</p> <p>21 correct?</p> <p>22 MR. ROBINSON: Objection to the form and scope</p> <p>23 of redirect.</p> <p>24 THE WITNESS: In that particular case, I've</p> <p>25 signed a confidentiality order that was, I believe,</p>
<p style="text-align: right;">Page 283</p> <p>1 MS. KLEIN: Objection; form, calls for</p> <p>2 speculation, lacks foundation, leading --</p> <p>3 MR. ROBINSON: Okay.</p> <p>4 THE WITNESS: That's correct.</p> <p>5 MS. KLEIN: -- has a legal conclusion.</p> <p>6 MR. ROBINSON: Counselor, Counselor, you've --</p> <p>7 this is -- local rules of the Eastern District</p> <p>8 restrict it to objection; leading. I would</p> <p>9 appreciate it if you stuck with that.</p> <p>10 MS. KLEIN: I can object to the form too.</p> <p>11 MR. ROBINSON: And you can --</p> <p>12 MS. KLEIN: And I'm not coaching the witness.</p> <p>13 MR. ROBINSON: You can object to the form and</p> <p>14 to leading, and I would appreciate it if you could</p> <p>15 hold it there.</p> <p>16 MS. KLEIN: I wish you would have done it today</p> <p>17 too.</p> <p>18 BY MR. ROBINSON:</p> <p>19 Q. Are all the bases that you have used and</p> <p>20 relied upon in forming your opinions contained in</p> <p>21 your report?</p> <p>22 MS. KLEIN: Objection; form, leading, asked and</p> <p>23 answered.</p> <p>24 THE WITNESS: That's correct.</p> <p>25 MR. ROBINSON: Okay, Professor Shafiq, that</p>	<p style="text-align: right;">Page 285</p> <p>1 issued by the court and at the instruction of</p> <p>2 counsel and to comply with that confidentiality</p> <p>3 order that I've signed in that case, I did not</p> <p>4 answer a subset of your questions.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Correct. But it doesn't just relate to</p> <p>7 the TikTok case.</p> <p>8 You're subject to NDA and confidentiality,</p> <p>9 for example, with respect to the case that you were</p> <p>10 hired on after September 9th that we discussed</p> <p>11 earlier; correct?</p> <p>12 You discussed that you were engaged on</p> <p>13 another matter after September 9th and you couldn't</p> <p>14 talk about it with me because you were subject to an</p> <p>15 NDA.</p> <p>16 Do you recall that testimony?</p> <p>17 A. I cannot recall. Maybe we can reread it</p> <p>18 from the record.</p> <p>19 Q. You were in engaged as an expert following</p> <p>20 issuing your expert report on September 9th in</p> <p>21 another matter; right?</p> <p>22 A. That's correct.</p> <p>23 Q. Can you tell me what that matter is?</p> <p>24 MR. ROBINSON: Objection; form, scope.</p> <p>25 And, Professor Shafiq, to the extent that</p>

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<p style="text-align: right;">Page 286</p> <p>1 you can answer the question without violating</p> <p>2 confidentiality orders, protective orders or</p> <p>3 privilege information, you may answer.</p> <p>4 THE WITNESS: It is my understanding that --</p> <p>5 let me start again.</p> <p>6 My work in that case has not been</p> <p>7 disclosed and I've signed a confidentiality order.</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. And even -- oh, sorry, go ahead.</p> <p>10 A. And subject to that, I cannot answer</p> <p>11 questions about a matter which has not been</p> <p>12 disclosed without violating the order that I've</p> <p>13 signed.</p> <p>14 Q. Right. And lots of the kinds of work that</p> <p>15 you do, given that you're dealing with data for big</p> <p>16 companies under highly confidential protective</p> <p>17 orders, you can't talk about what you do with other</p> <p>18 people; right?</p> <p>19 MR. ROBINSON: Objection; form, scope.</p> <p>20 BY MS. KLEIN:</p> <p>21 Q. You can't talk about your expert reports</p> <p>22 and the methodologies you're employing with other</p> <p>23 people because you're subject to an NDA and a</p> <p>24 confidentiality order; right?</p> <p>25 MR. ROBINSON: Same objections.</p>	<p style="text-align: right;">Page 288</p> <p>1 Q. Right.</p> <p>2 You see where you list the 16 reports</p> <p>3 you've given over the last 10 years?</p> <p>4 A. Yes.</p> <p>5 Q. Okay. Tell me about In re Meta Pixel</p> <p>6 Healthcare Litigation.</p> <p>7 MR. ROBINSON: Objection --</p> <p>8 BY MS. KLEIN:</p> <p>9 Q. What's the methodology and what were you</p> <p>10 looking at in that litigation?</p> <p>11 MR. ROBINSON: Objection; form, scope.</p> <p>12 And then a similar instruction, Professor</p> <p>13 Shafiq. To the extent you can answer the question,</p> <p>14 it does not violate signed non-disclosure</p> <p>15 agreements, confidentiality orders, protective</p> <p>16 orders or privilege, you may answer.</p> <p>17 THE WITNESS: Can you please rephrase your</p> <p>18 question?</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. Sure.</p> <p>21 What's the -- what's the methodology that</p> <p>22 you employed and the subject matter of that report?</p> <p>23 A. Without going into the confidential</p> <p>24 details of that matter, that case broadly deals with</p> <p>25 the defendant's collection of personal data from</p>
<p style="text-align: right;">Page 287</p> <p>1 THE WITNESS: I can talk about the</p> <p>2 methodologies that I've used in my report, in the</p> <p>3 research papers that I've published that I'm relying</p> <p>4 on and in this particular report.</p> <p>5 BY MS. KLEIN:</p> <p>6 Q. Right, but you -- while you're undergoing</p> <p>7 the work, for example, you can't talk about it with</p> <p>8 somebody else at U.C. Davis?</p> <p>9 MR. ROBINSON: Objection --</p> <p>10 THE WITNESS: Which --</p> <p>11 MR. ROBINSON: -- form, scope.</p> <p>12 THE WITNESS: Can you clarify which work</p> <p>13 you're --</p> <p>14 BY MS. KLEIN:</p> <p>15 Q. Sure.</p> <p>16 A. -- talking about?</p> <p>17 Q. Let's go back to your CV, sir, which is</p> <p>18 Shafiq Exhibit 2.</p> <p>19 Second-to-last page of Shafiq Exhibit 2,</p> <p>20 your expert testimony and reports over the past</p> <p>21 10 years.</p> <p>22 Do you see that?</p> <p>23 MR. ROBINSON: Objection; form, scope.</p> <p>24 THE WITNESS: I'm at the page 16 of my CV.</p> <p>25 BY MS. KLEIN:</p>	<p style="text-align: right;">Page 289</p> <p>1 consumers.</p> <p>2 Q. And tell me about your methodology,</p> <p>3 please, sir.</p> <p>4 MR. ROBINSON: Same objections, same</p> <p>5 instruction and cautioning regarding non-disclosure</p> <p>6 agreements, confidentiality orders, protective</p> <p>7 orders and privilege.</p> <p>8 THE WITNESS: Which methodology are you</p> <p>9 referring to?</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. Your methodology in your report and In re</p> <p>12 Meta Pixel Healthcare Litigation. Tell me about it.</p> <p>13 A. I issued the report in that case. If you</p> <p>14 put the report in front of me, which I believe is</p> <p>15 subject to protective order -- subject to that</p> <p>16 protective order, I will attempt to answer your</p> <p>17 question.</p> <p>18 Q. You can't talk about it because it's</p> <p>19 subject to a protective order and it's not public;</p> <p>20 right?</p> <p>21 MR. ROBINSON: Objection; form, scope.</p> <p>22 THE WITNESS: Whether or not I can answer your</p> <p>23 question about, for example, that matter where that</p> <p>24 deals with defendant's collection of personal</p> <p>25 information from consumers depends on the</p>

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<p style="text-align: right;">Page 290</p> <p>1 confidentiality order that I have signed in that 2 case. 3 BY MS. KLEIN: 4 Q. Can you tell me the methodology you 5 employed in that case today or not? 6 MR. ROBINSON: Same objections, same 7 instructions regarding prior agreements and 8 privilege. 9 THE WITNESS: It depends on what broad level 10 you are asking me. Are you asking me a specific 11 question about a specific methodology or generally 12 speaking? 13 BY MS. KLEIN: 14 Q. I'm asking you, you testified a few 15 minutes ago that the methodology you employed is 16 customary among other experts in the industry, and 17 I'm here to tell you that you're constrained under 18 your NDA from talking about that methodology with 19 anybody else, so how do you know that it's 20 customary? 21 MR. ROBINSON: Objection; form, scope. 22 THE WITNESS: Which methodology are you asking 23 me a question about? 24 BY MS. KLEIN: 25 Q. I'm asking you about In re Meta. What's</p>	<p style="text-align: right;">Page 292</p> <p>1 know whether your methodology is customary or not; 2 correct? 3 MR. ROBINSON: Objection; asked and answered, 4 form, scope, same cautioning regarding prior 5 agreements. 6 THE WITNESS: The methodology that I've used 7 for the purposes of my report in this case as well 8 as generally in other cases as well as peer-reviewed 9 research that I do, including the peer-reviewed 10 research that I've cited in my report, uses a 11 standard methodology to study privacy issues in 12 online advertising. 13 I've used the exact same methodology in 14 this case as well as, generally speaking, in other 15 matters. 16 BY MS. KLEIN: 17 Q. But you can't tell me what those matters 18 are, can you? And I can't look at those reports to 19 tell? 20 MR. ROBINSON: Same objections on form and 21 scope, same cautioning regarding previous protective 22 orders and confidentiality agreements and privilege. 23 But you may answer to the extent that you do not 24 violate those. 25 THE WITNESS: Is there a question on the floor?</p>
<p style="text-align: right;">Page 291</p> <p>1 the methodology there? 2 MR. ROBINSON: Same objections -- 3 BY MS. KLEIN: 4 Q. Answer the question, please. 5 MR. ROBINSON: -- form and scope and same 6 instruction and cautioning regarding prior 7 agreements and privilege. 8 BY MS. KLEIN: 9 Q. Specifically speaking, tell me the 10 methodology you employed in coming to your 11 conclusions in In re Meta Pixel Healthcare 12 Litigation, sir. 13 MR. ROBINSON: Same objections, same 14 cautioning. You may answer the question to the 15 extent you can without violating those agreements 16 and privilege. 17 THE WITNESS: I have not memorized all the 18 reports that I've written in other cases. If you 19 ask me generally, I can try to answer your question. 20 But I cannot, from memory, give you any specifics. 21 BY MS. KLEIN: 22 Q. Well, the specifics are your counsel asked 23 you if your methodology was customary in the 24 industry, but you don't know the specifics and you 25 can't talk about it with anyone, so you really don't</p>	<p style="text-align: right;">Page 293</p> <p>1 Because I did not hear it as there was a question 2 for me. 3 BY MS. KLEIN: 4 Q. Yes, sir. 5 You can't tell me which reports you have 6 used the same methodology in, specifically? 7 MR. ROBINSON: Same objections to form and 8 scope. 9 THE WITNESS: I have not memorized every report 10 that I've written in other cases. 11 BY MS. KLEIN: 12 Q. Well, you've got 16 cases written down 13 there. Tell me which ones you've used this exact 14 same methodology in. 15 MR. ROBINSON: Same objection; form and scope. 16 And caution the witness he can answer to 17 the extent he can without violating confidentiality 18 orders, non-disclosure agreements or privilege. 19 THE WITNESS: Subject to the confidentiality 20 orders that I've signed in other matters, my work, 21 generally speaking, not talking about a specific 22 case, talking generally speaking, involves studying 23 data collection in online advertising ecosystem, 24 such as -- and the methodology that is generally 25 used in those matters is described in peer-reviewed</p>

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<p style="text-align: right;">Page 294</p> <p>1 research papers, where you analyze data collection 2 and sharing when a consumer visits a certain 3 website. 4 That's the same general methodology that I 5 have used in all of my work, including peer-reviewed 6 research, as well as my work, generally speaking, in 7 other matters. And it is no different in this case. 8 BY MS. KLEIN: 9 Q. You used a different methodology in a case 10 called John Doe 1, though; right? 11 MR. ROBINSON: Objection; form, scope. 12 To the extent you can answer, you may 13 without violating confidentiality orders, protective 14 orders or privilege. 15 THE WITNESS: I have not memorized all the 16 reports that I've written. 17 BY MS. KLEIN: 18 Q. I'd have to look at the report and show it 19 to the judge and compare to show that you used 20 different methodologies in different cases; right? 21 MR. ROBINSON: Objection; form, scope. 22 THE WITNESS: I cannot answer your general 23 question without more details. If you ask me more 24 specifically, then I can attempt to answer your 25 question.</p>	<p style="text-align: right;">Page 296</p> <p>1 A. For the assignment, for example, the 2 second assignment, where the goal was to study 3 Google's data collection, for that specific 4 assignment, I relied on peer-reviewed research and 5 the methodology that is used in them, which is to 6 crawl a large number of websites and meticulously 7 count how many websites -- on how many websites data 8 is collected by different companies. 9 I describe that extensively in my report, 10 and that methodology is described in much, much 11 greater detail in the research papers that I cite in 12 my report. 13 Q. Where in your report do you describe that 14 you crawled thousands of sites? 15 A. Do you want me to go back to the report? 16 Q. Yes, sir. 17 (Witness reviews document.) 18 A. The papers that I cite and my summary of 19 those papers in paragraph 41c, all of these 20 papers -- I believe all except one of these papers 21 use the methodology where they crawl various 22 websites. 23 For example, the first citation in 40c1 24 [sic], crawled one million websites and then did the 25 counting and reached the conclusion that Google</p>
<p style="text-align: right;">Page 295</p> <p>1 But as a general matter, I've told you the 2 methodology that I've used for the kind of 3 assignments where the goal is to study data 4 collection, sharing and usage. As I explained in 5 the start of my report, this is squarely the focus 6 of the research that me and my lab conducts deals 7 with this and the methodology that I've generally 8 used in peer-reviewed research as well as other 9 cases, including this particular case, follows the 10 standard methodology that I've used in peer-reviewed 11 research, that other people have used in 12 peer-reviewed research, including the papers that 13 I've cited in my report. 14 BY MS. KLEIN: 15 Q. You haven't articulated any methodology, 16 sir. 17 Can you please explain what your 18 methodology is? 19 MR. ROBINSON: Objection; form, scope. 20 THE WITNESS: Do you want me to give you an 21 example? 22 BY MS. KLEIN: 23 Q. No. 24 I want to know what was your methodology 25 in this case?</p>	<p style="text-align: right;">Page 297</p> <p>1 tracks users on 78.07 percent of the top one million 2 websites. 3 Q. You didn't personally crawl these 4 websites; correct? 5 MR. ROBINSON: Objection; form, scope. 6 BY MS. KLEIN: 7 Q. You cited papers that crawled the 8 websites? 9 A. I did not crawl one million websites, but, 10 like I told you earlier, this is the methodology 11 that I have also used when I was reading these 12 papers and citing them in my report. 13 I also analyzed various websites to 14 confirm that the results are indeed what I am seeing 15 in my own testing. 16 Q. Well, sir, you didn't describe that 17 methodology in your report, did you? 18 MR. ROBINSON: Objection; form. 19 BY MS. KLEIN: 20 Q. You never said in your report that you 21 crawled any websites? 22 MR. ROBINSON: Same objection. 23 THE WITNESS: All of these papers that -- 24 (Reporter seeks clarification.) 25 BY MS. KLEIN:</p>

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<p style="text-align: right;">Page 298</p> <p>1 Q. You never said in your report that you</p> <p>2 crawled any websites; correct?</p> <p>3 MR. ROBINSON: Same objection.</p> <p>4 THE WITNESS: I did not use those exact words</p> <p>5 in my report.</p> <p>6 BY MS. KLEIN:</p> <p>7 Q. But you did say in the TikTok report that</p> <p>8 you crawled websites; right?</p> <p>9 A. Can you tell me which . . .</p> <p>10 Q. Do you not remember that you crawled</p> <p>11 websites with respect to your TikTok opinion,</p> <p>12 really?</p> <p>13 MR. ROBINSON: Objection; form.</p> <p>14 THE WITNESS: I do not recall.</p> <p>15 BY MS. KLEIN:</p> <p>16 Q. Okay. Let's go back to the TikTok</p> <p>17 opinion, sir. Exhibit 9. Your declaration,</p> <p>18 Exhibit 9. Page 48.</p> <p>19 A. Can I take a moment to review?</p> <p>20 Q. Sure, take all the time you want, sir.</p> <p>21 A. Which page was it?</p> <p>22 Q. Page 48.</p> <p>23 MS. MARMARO: Page 48?</p> <p>24 MS. KLEIN: Page 48, paragraph 82.</p> <p>25 THE WITNESS: Yes.</p>	<p style="text-align: right;">Page 300</p> <p>1 Q. You looked at source code in the TikTok</p> <p>2 case?</p> <p>3 MR. ROBINSON: Same -- object to form and</p> <p>4 scope. And similar caution on you may answer the</p> <p>5 question to the extent it does not violate</p> <p>6 confidentiality orders, protective orders or</p> <p>7 privilege.</p> <p>8 THE WITNESS: I believe I cannot answer your</p> <p>9 question about details of source code analysis.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. I'm not asking your analysis, sir, I'm</p> <p>12 just asking if you reviewed source code in the</p> <p>13 TikTok case; correct?</p> <p>14 A. No.</p> <p>15 MR. ROBINSON: Similar objection to the</p> <p>16 questions and cautioning on confidentiality order</p> <p>17 and privilege.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. There are cases in which you reviewed</p> <p>20 source code; correct?</p> <p>21 MR. ROBINSON: Object to the form and scope and</p> <p>22 instruct the witness that, to the extent you can</p> <p>23 answer the question without violating</p> <p>24 confidentiality orders, protective orders,</p> <p>25 non-disclosure agreements or privilege, you may</p>
<p style="text-align: right;">Page 299</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. You see in your -- in your report at</p> <p>3 page 48, paragraph 82, Exhibit Shafiq 9, you said,</p> <p>4 [as read] "I crawled six websites included in the</p> <p>5 second amended complaint using four major web</p> <p>6 browsers," and then it goes on from there.</p> <p>7 Do you see that?</p> <p>8 A. Paragraph 48?</p> <p>9 Q. Page -- paragraph 82?</p> <p>10 A. Oh.</p> <p>11 Q. Page 48.</p> <p>12 Do you see here where you said you crawled</p> <p>13 six websites?</p> <p>14 A. Yes.</p> <p>15 Q. Your methodology in TikTok was different,</p> <p>16 wasn't it?</p> <p>17 MR. ROBINSON: Objection; form.</p> <p>18 THE WITNESS: Without going into the specifics</p> <p>19 of my assignments in that case, the methodology of</p> <p>20 analyzing tracking that I've used in peer-reviewed</p> <p>21 research, that is the same in my research, that is</p> <p>22 the same, generally speaking, in this report as well</p> <p>23 as what is used in the research papers that I cite</p> <p>24 in my report in this case.</p> <p>25 BY MS. KLEIN:</p>	<p style="text-align: right;">Page 301</p> <p>1 answer the question.</p> <p>2 THE WITNESS: Just like we talked about the</p> <p>3 source code of Google AdMob that I discuss and the</p> <p>4 analysis of websites, what happens when the source</p> <p>5 code a website executes that I describe in my report</p> <p>6 in this case.</p> <p>7 BY MS. KLEIN:</p> <p>8 Q. Sir, I'm talking --</p> <p>9 A. I have similarly --</p> <p>10 Q. Go ahead.</p> <p>11 A. -- analyzed source code in the same</p> <p>12 fashion, generally speaking, in other cases as well.</p> <p>13 Q. And you analyzed source code in more depth</p> <p>14 in other cases as well, where you got access to</p> <p>15 highly confidential source code that's not subject</p> <p>16 to public disclosure; correct?</p> <p>17 MR. ROBINSON: Object to the form.</p> <p>18 BY MS. KLEIN:</p> <p>19 Q. You actually looked at the source code</p> <p>20 that's not publicly available in other cases?</p> <p>21 MR. ROBINSON: Object to the form and scope.</p> <p>22 And instruct the witness that he may answer to the</p> <p>23 extent it does not violate non-disclosure</p> <p>24 agreements, confidentiality orders, protective</p> <p>25 orders or privilege.</p>


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<p style="text-align: right;">Page 302</p> <p>1 THE WITNESS: Can I answer yes or no?</p> <p>2 MR. ROBINSON: Yes, if you believe that does</p> <p>3 not violate your previous protective orders,</p> <p>4 confidentiality orders or non-disclosure agreements</p> <p>5 or privilege.</p> <p>6 THE WITNESS: Subject to the protective orders</p> <p>7 that I've signed, the only answer I can give you is</p> <p>8 no.</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. Okay. Let's look at the last page of</p> <p>11 Exhibit 9.</p> <p>12 A. Last page. Yes.</p> <p>13 Q. Do you see where it says, [as read] "Slip</p> <p>14 sheet, Appendix B exists of source code, scripts and</p> <p>15 data and has been produced by e-mail in native form</p> <p>16 to defendants"?</p> <p>17 A. Yes.</p> <p>18 MR. ROBINSON: Object to the form and to the</p> <p>19 scope.</p> <p>20 THE WITNESS: This is what it states.</p> <p>21 BY MS. KLEIN:</p> <p>22 Q. Right. You reviewed source code that you</p> <p>23 appended to your report in the TikTok case?</p> <p>24 MR. ROBINSON: Object to the form, to the</p> <p>25 scope.</p>	<p style="text-align: right;">Page 304</p> <p>1 scope.</p> <p>2 And you may answer the question to the</p> <p>3 extent it does not violate confidentiality orders,</p> <p>4 protective orders, that you have signed and also</p> <p>5 privilege.</p> <p>6 THE WITNESS: Sitting here today I do not</p> <p>7 recall from memory, but if you show it to me, I can</p> <p>8 try to answer your question.</p> <p>9 BY MS. KLEIN:</p> <p>10 Q. You wrote code to perform work to do work</p> <p>11 in the TikTok case; right?</p> <p>12 MR. ROBINSON: Object to the form, to the</p> <p>13 scope.</p> <p>14 And you may answer the question to the</p> <p>15 extent it does not violate confidentiality orders,</p> <p>16 protective orders or privilege.</p> <p>17 THE WITNESS: Can you please rephrase that</p> <p>18 question?</p> <p>19 BY MS. KLEIN:</p> <p>20 Q. You wrote code to perform work in the</p> <p>21 TikTok case, which you appended as Exhibit B?</p> <p>22 A. That's correct --</p> <p>23 MR. ROBINSON: Same objection and same</p> <p>24 instruction.</p> <p>25 You may answer the question if it does not</p>
<p style="text-align: right;">Page 303</p> <p>1 BY MS. KLEIN:</p> <p>2 Q. Correct?</p> <p>3 A. No, that's incorrect.</p> <p>4 Q. You didn't review what you attached to</p> <p>5 Exhibit B [sic]?</p> <p>6 MR. ROBINSON: Object to the form, to the</p> <p>7 scope.</p> <p>8 THE WITNESS: This is the source code that I</p> <p>9 wrote.</p> <p>10 BY MS. KLEIN:</p> <p>11 Q. So you never reviewed source code as part</p> <p>12 of your expert work in any case?</p> <p>13 MR. ROBINSON: Object to the form, to the</p> <p>14 scope.</p> <p>15 You may answer the question to the extent</p> <p>16 it does not violate confidentiality orders,</p> <p>17 non-disclosure agreements, protective orders or</p> <p>18 privilege.</p> <p>19 THE WITNESS: Subject to all of those</p> <p>20 confidentiality orders, my answer to your question,</p> <p>21 generally speaking, is no.</p> <p>22 BY MS. KLEIN:</p> <p>23 Q. So the last page of Exhibit 9 is source</p> <p>24 code that you created to do what?</p> <p>25 MR. ROBINSON: Object to the form, to the</p>	<p style="text-align: right;">Page 305</p> <p>1 violate those orders, agreements or privilege.</p> <p>2 MS. KLEIN: He already said, "That's correct."</p> <p>3 THE WITNESS: That's correct.</p> <p>4 BY MS. KLEIN:</p> <p>5 Q. And you agree with me, sir, that you did</p> <p>6 not write any code to perform any analysis in this</p> <p>7 case; correct?</p> <p>8 MR. ROBINSON: Object to the form and to the</p> <p>9 scope.</p> <p>10 THE WITNESS: Are you talking about my report</p> <p>11 in this case or reports in other cases?</p> <p>12 BY MS. KLEIN:</p> <p>13 Q. Your report in this case that we've</p> <p>14 been -- that is your report should be Exhibit 3.</p> <p>15 Did you -- you did not write any code to</p> <p>16 perform the analysis that's contained in Exhibit 3;</p> <p>17 correct?</p> <p>18 MR. ROBINSON: Objection to the form and to the</p> <p>19 scope.</p> <p>20 THE WITNESS: No, but I reviewed source code</p> <p>21 that I cite in my report throughout in various</p> <p>22 footnotes as well as source code that is described</p> <p>23 in research papers that I cite in my report.</p> <p>24 MS. KLEIN: Okay. Pass the witness.</p> <p>25 MR. ROBINSON: Okay. We'll reserve any further</p>

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<p style="text-align: right;">Page 306</p> <p>1 questions for trial.</p> <p>2 MS. KLEIN: Thank you, Dr. Shafiq.</p> <p>3 THE VIDEOGRAPHER: We're off the record at</p> <p>4 7:01 p.m. This concludes today's testimony given by</p> <p>5 Dr. Zubair Shafiq. The total number of media units</p> <p>6 used was eight and will be retained by Veritext.</p> <p>7 (Whereupon, the proceedings were concluded</p> <p>8 at 7:01 p.m.)</p> <p>9 ---oOo---</p> <p>10</p> <p>11</p> <p>12</p> <p>13 <u>ZUBAIR SHAFIQ, Ph.D.</u></p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25 Job No. CS6920792</p>	<p style="text-align: right;">Page 308</p> <p>1 ROBERT ARTHUR, ESQ.</p> <p>2 arthur@lanierlawfirm.com</p> <p>3 October 10, 2024</p> <p>4 RE: State Of Texas, Et Al. v. Google LLC</p> <p>5 10/9/2024, Zubair Shafiq (#6920792)</p> <p>6 The above-referenced transcript is available for</p> <p>7 review.</p> <p>8 Within the applicable timeframe, the witness should</p> <p>9 read the testimony to verify its accuracy. If there are</p> <p>10 any changes, the witness should note those with the</p> <p>11 reason, on the attached Errata Sheet.</p> <p>12 The witness should sign the Acknowledgment of</p> <p>13 Deponent and Errata and return to the deposing attorney.</p> <p>14 Copies should be sent to all counsel, and to Veritext at</p> <p>15 erratas-cs@veritext.com</p> <p>16 Return completed errata within 30 days from</p> <p>17 receipt of testimony.</p> <p>18 If the witness fails to do so within the time</p> <p>19 allotted, the transcript may be used as if signed.</p> <p>20</p> <p>21</p> <p>22 Yours,</p> <p>23 Veritext Legal Solutions</p> <p>24</p> <p>25</p>
<p style="text-align: right;">Page 307</p> <p>1 I, the undersigned, a Certified Shorthand</p> <p>2 Reporter of the State of California, do hereby</p> <p>3 certify:</p> <p>4 That the foregoing proceedings were taken</p> <p>5 before me at the time and place herein set forth;</p> <p>6 that any witnesses in the foregoing proceedings,</p> <p>7 prior to testifying, were administered an oath; that</p> <p>8 a record of the proceedings was made by me using</p> <p>9 machine shorthand which was thereafter transcribed</p> <p>10 under my direction; that the foregoing transcript is</p> <p>11 a true record of the testimony given.</p> <p>12 Further, that if the foregoing pertains to</p> <p>13 the original transcript of a deposition in a Federal</p> <p>14 Case, before completion of the proceedings, review</p> <p>15 of the transcript (X) was ( ) was not requested.</p> <p>16 I further certify that I am neither</p> <p>17 financially interested in the action nor a relative</p> <p>18 or employee of any attorney of any party to this</p> <p>19 action.</p> <p>20 IN WITNESS WHEREOF, I have this date</p> <p>21 subscribed my name.</p> <p>22 Dated: October 10, 2024</p> <p>23</p> <p>24</p> <p>25  ANRAE WIMBERLEY, CSR No. 7778</p>	<p style="text-align: right;">Page 309</p> <p>1 State Of Texas, Et Al. v. Google LLC</p> <p>2 Zubair Shafiq (#6920792)</p> <p>3 E R R A T A S H E E T</p> <p>4 PAGE____ LINE____ CHANGE_____</p> <p>5 _____</p> <p>6 REASON_____</p> <p>7 PAGE____ LINE____ CHANGE_____</p> <p>8 _____</p> <p>9 REASON_____</p> <p>10 PAGE____ LINE____ CHANGE_____</p> <p>11 _____</p> <p>12 REASON_____</p> <p>13 PAGE____ LINE____ CHANGE_____</p> <p>14 _____</p> <p>15 REASON_____</p> <p>16 PAGE____ LINE____ CHANGE_____</p> <p>17 _____</p> <p>18 REASON_____</p> <p>19 PAGE____ LINE____ CHANGE_____</p> <p>20 _____</p> <p>21 REASON_____</p> <p>22 _____</p> <p>23 _____</p> <p>24 Zubair Shafiq Date _____</p> <p>25</p>

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